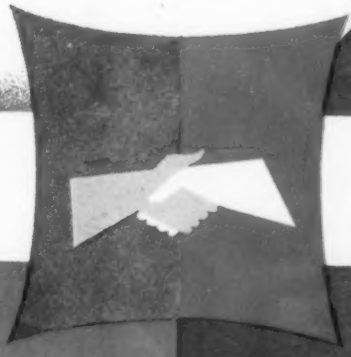
JUN 29 1944

TELEPHONY



JUNE 24, 1944

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The Journal of the Telephone Industry

THE FIFTH WAR LOAN IS ON!

As the day of Victory approaches, the war effort mounts to a peak that must be sustained by our War Bond purchases. Let's buy *double* what we did before!

"LONG SHOTS" (Even at 1000 to 1) PROVIDE SAFETY

To protect valuable records and tracings, including those of customers' exchanges and equipment, Stromberg-Carlson now copies them by Microstating.

Microstating means that these blueprints and tracings are copied on 35 mm. film which is stored in fireproof vaults outside the Company's premises. Should the original tracings become damaged through fire, sprinkler leakage, or any other cause, it is a simple task to make an enlargement of the film—and there is a duplicate of the original! Thus Stromberg-Carlson's records of customers' equipment cannot be destroyed.

Blueprints or tracings of any size can be Microstated on this 35 mm. film. Oftentimes the shot requires a reduction of as much as 1000 to 1. More than 1,100 square inches of tracings can be reduced to less than 1½ square inches of imperishable safety Microfilm, but every line, dot, and dimension mark is there as perfectly as it was on the original large drawing.

This is but one of the many steps which have been taken recently in Stromberg-Carlson's factories to promote Progress in Telephony—progress that is bound to be reflected in Stromberg-Carlson's civilian telephone apparatus and service after Victory.

STROMBERG-CARLSON

Factory, General Offices: Rochester 3, N. Y.

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PROGRESS IN TELEPHONY

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STATE SECRETARIES, NOTE:

Since the above listing was prepared, additional new members have joined your Association. If so, please send us their nam inclusion in subsequent listings.

ASSOCIATION MEMBERS

Kellogg Welcomes

the Many Newcomers Now Benefitting by Membership

"In union there is strength." This explains why telephone men, from the earliest days, banded together in state associations . . . central organizations where mutual problems could be solved and mutual difficulties overcome.

There's a growing awareness of the great value of association membership. It is indicated by the number of telephone companies which became members during the past year.

Joining, as they did, during one of the most critical years in Independent telephone history, those companies are having an unusual opportunity to see and benefit by the many services their affiliation affords.

Among these services are adequate, competent representation on all matters of local, state or national interest affecting the telephone business . . . expert presentation of their viewpoint on questions vitally affecting telephone operations.

Especially important today are the wartime services. For through their membership in the United States Independent Association,* they have a listening post and a voice at Washington, D. C. They are kept abreast of government orders affecting the telephone industry. They receive authoritative, helpful advice on problems involving the application of priorities and regulations, etc.

These are only "high spots" in a long list of valuable services that association membership provides. For further details, non-members are urged to get in touch with their State Association. See the list at the right—and drop a line to the State Secretary.

*Any State Telephone Association member whose annual gross revenue is under $50,000 automatically becomes a member of the United States Independent Telephone Association.

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Illustrations from Leading Supply Manufacturers Whose Products are Distributed and

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SWITCHBOARD & SUPPLY CO. ★ CHICAGO

Service Man's Friend. These busy days Kester Rosi Core Solder is more appreciated than ever. minimizes service troubles by eliminating intermi tent open and closed circuits and high resistan joints. Made by KESTER SOLDER COMPAN

Always the Same High Quality. Installers lose no ti with rejects when they use porcelain insula made by PORCELAIN PRODUCTS, INC. Preci manufacture and constant laboratory inspect assure unvarying uniformity.

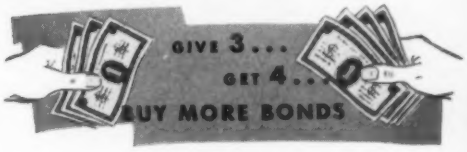
The Complete Splicing Method—that's Nicopress. Shown are line wire splicing sleeves and the special Nicopress tool used to press sleeves on to conductors. Developed by NATIONAL TELEPHONE SUPPLY CO., this method makes splices that are stronger than the wire itself. In addition, Nicopress methods assure high electrical conductivity and rapid installation. The line includes sleeves for line, drop and inside wires; dead-ends; repair sleeves; reducing sleeves.

Not a Kink in a Carload. Subscribers prefer Kell Koiled Kords because they stay out of the w They help reduce telephone breakage caused dangling cords. This exclusive KELLOGG prod is available for prompt shipment.

★ FOR PROMPT SERVICE, DEPENDABLE QUALI

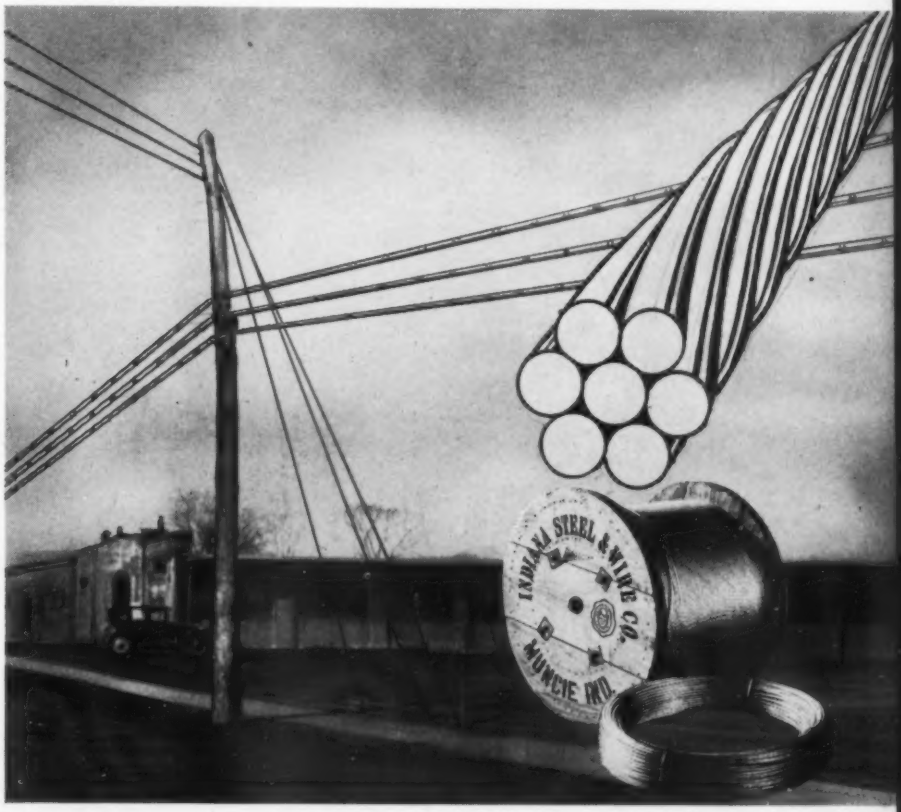
Summer Heat Waves, winter cold snaps, spring thaws may try their worst—but Hemingray Insulators, barring accidents, regularly outlast poles! Controlled production by OWENS-ILLINOIS GLASS CO. assures unvarying uniformity. Telephone men everywhere know Hemingrays as the insulators that are impervious to moisture, climatic changes, age . . . possess sustained dielectric strength . . . require minimum replacement . . . and are standard everywhere insulators are used.

For Dependable Protection use the No. 222 ten-wire cross arm arrester. Made to highest standards of quality by RELIABLE ELECTRIC CO. with galvanized steel body, self-cleaning sawtooth discharge blocks, weatherproof cover.



Favorite Places to Phone for many folks are Churchill Folding Door Booths. These modern booths, made by CHURCHILL CABINET CO., provide both privacy and comfort. The No. 100 booth has electric automatic ventilator and light.

FREEDOM ISN'T FREE—
It's Priceless!
BUY WAR BONDS



Lasting Protection against corrosion is one reason why Indiana Crapo Steel Strand is preferred by experienced telephone men. This protection is provided by a heavy, ductile, tightly-bonded zinc coating, applied by the famous Crapo process, a development of INDIANA STEEL AND WIRE CO. Crapo Steel Strand has the strength to support the pole structure under maximum ice and wind loading . . . the ruggedness to withstand unusual punishment.

AL INE UP WITH *Kellogg* FOR LINE SUPPLIES ★

We asked 5 foolish women why they don't check ceiling prices

"The storekeeper might get mad"

You're wrong there, lady. Good merchants appreciate customers who keep an eye on ceiling prices, who don't ask them to buy on the black market, who never ask for rationed goods without points, who share and play square with scarce goods.

..."It's too much trouble"

It isn't a lot of trouble to do the little the Government asks—just remember to ask every time you make a purchase, "Is this the ceiling price?" And it's well worth the trouble—if it holds prices down, lessens the danger of inflation.

"We can afford to pay more"

Maybe *you* can, but how about the millions of soldiers' families who must live on Army allotments? Every time you pay black market prices or buy rationed goods without points, you're helping to send prices up—that's the way inflation comes. And *nobody* can afford inflation.

"My store doesn't display ceiling prices"

All retailers will if you keep asking them, "Is this the ceiling price?" It's the law. Ceiling prices must be displayed wherever goods under ceilings are sold. That's the system which has helped to keep prices so much lower in this war than they were in the last.

"I just don't want to do it"

No—and our boys don't want to fight! But they're doing it—magnificently! It's up to you on the home front to do your part to head off rising prices and inflation, help prevent producing a depression for our boys to come home to. Don't be a SABOTEUR on the home front!

Check and be proud! You should be proud if you're the kind of loyal, patriotic American citizen who never pays more than ceiling prices, who pays her ration points in full, who shares and plays square with scarce goods!

It is because of you and millions of women like you—cooperating with American merchants—that the cost of living has gone up only 7 per cent since your Government's price control started.

But the end is not yet. So keep up the good work. Ask *every time*—"Is this the ceiling price?" Never buy a single thing that you can do without. Save your money—in the bank, in life insurance, in War Bonds. When you use things up, wear 'em out, make 'em do, or do without . . . you're helping to HOLD DOWN PRICES!

YOUR STORE WILL BE GLAD TO HAVE YOU ASK:

"Is this the ceiling price?"

A United States War Message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

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PHONY

Student in the Enlisted Men's School, Eastern Signal Corps School, Fort Monmouth, New Jersey, learns to splice cable on movable platform.

EFFICIENCY and SAFETY in cable splice drying

Protek-Sorb Desiccant, a product of the Davison Chemical Corporation, is scientifically processed for maximum efficiency in drying cable splices. Because it is free-flowing . . . because its small mesh size permits complete filling of the splice opening with desiccant . . . the splice is dried faster and normal insulation resistance is restored quicker.

These two advantages, plus the proved fact that Protek-Sorb Desiccant has greater capacity for moisture . . . are the reasons why Protek-Sorb Desiccant has won approval whenever and wherever it is used.

You'll find it safer! You'll find it easier and more convenient than "boiling-out." Specify Protek-Sorb Desiccant. Sold by your regular telephone jobber.

THE DAVISON CHEMICAL CORPORATION

BALTIMORE-3, MD.

Progress through Chemistry

Canadian exclusive sales agents for PROTEK-SORB DESICCANT: CANADIAN INDUSTRIES LIMITED—General Chemicals Division

TELEPHONY

The Journal of the Telephone Industry

JUNE 24, 1944

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IN THIS ISSUE

WEAK LINKS—*By J. C. Crowley, Jr.* 13

ABC OF THE TELEPHONE—*By Frank Lee* 17

IN THE NATION'S CAPITAL—*By Francis X. Welch* 20

THE OPERATOR'S CORNER—*By Mayme Workman* 28

PLANT MAN'S NOTEBOOK—*By Ray Blain* 30

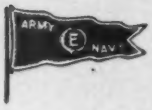
GEN. HARRY C. INGLES TOURS PACIFIC BATTLE AREA 32

COURTS AND COMMISSIONS 36

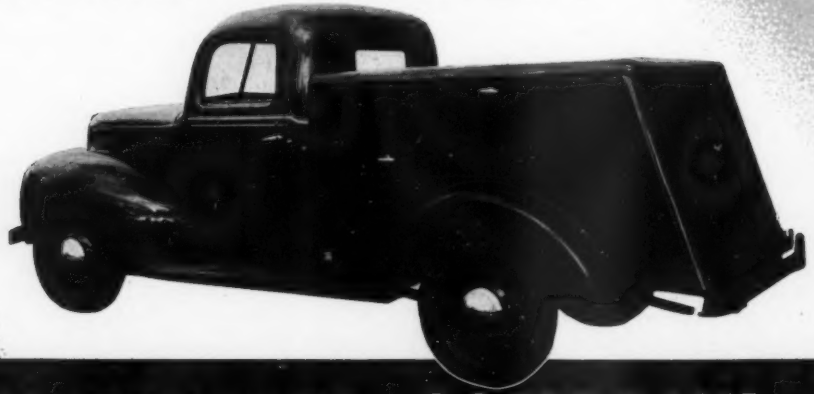
A FIRST IN POSTWAR PLANS

Highway General Utility Bodies for installation, repair and section line work. Designed with space and compartments for all necessary tools and material. Mounts on one-half ton chassis.

Planning now may eliminate delays in procuring your future requirements. Let us furnish estimates to aid in establishing your early post-war budgets.



At the Front . . . In War or In Peace



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MANUFACTURERS OF

TRUCK TRAILERS AND BODIES · EARTH BORING MACHINES · WINCHES · OTHER PUBLIC UTILITY EQUIPMENT

GENERAL OFFICES

EDGERTON · WIS. · U. S. A.

You'll Save... with this serve

Patents Pending

As every lineman knows, there have been two ways to make serves on dead ends of multiple zinc-coated strand on telephone and power lines.

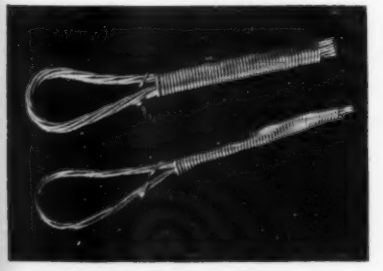
One method is the familiar "breakdown serve,"—a laborious job which, when made with pliers, tends to invite corrosion by damaging the zinc coating of the wires. The other way is the use of clamps.

Now Bethlehem's research engineers have developed a handy serving tool which provides a brand-new technique for making serves, on bethanized strand or Ruralductor. With the tool, which is a simple, one-piece winding appliance, any lineman can quickly master the technique—called the "dead-end coil" method because it uses a 10-ft. coil of dead-end wire to make the serve.

The new-type serve is a strong, tight wrapping of 11-gauge bethanized dead-end wire, given fifty turns around the ends of the loop. The wire is easily applied: the lineman simply engages it between the two "fingers" projecting from the tool, which hold it under steady tension while the tool is rotated.

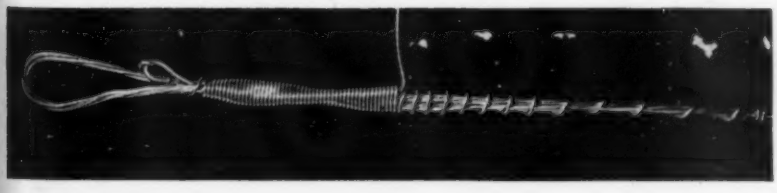
The ductile, tight zinc coating of bethanized wire or strand is not displaced to any harmful extent by the smooth, hard "fingers"—and tests show that the serve holds beyond the useful strength of the strand. However, the technique is recommended for use only on bethanized strand, as the holding power of the dead end is not always as reliable with other types of coatings.

For your next installation, give some thought to the advantages of bethanized strand, plus the Bethlehem serving tool. For complete information, get in touch with the nearest Bethlehem representative, or write direct to Bethlehem Steel Company, Bethlehem, Pa.



SERVES ON 3- AND 7-WIRE STRAND—These dead ends were quickly made with the new Bethlehem serving tool. The wire used is 11-gauge bethanized. The tool is suitable for the commonly used sizes and grades of strand, in class A, B and C coatings.

VIBRATION-DAMPENING ASSEMBLY—For this vibration-dampening dead-end assembly on three-wire Ruralductor, jumper wire of soft steel is laid in the valley between strands, and fifty turns of dead-end bethanized wire applied with the tool. The jumper wire is thus firmly secured, without interfering with the holding power of the dead end, and with good electrical contact. The individual strand wires are fanned back below the serve, and cut to lengths of 1 in., 5 in., and 10 in., respectively. The remaining dead-end wire is wrapped by hand. This provides an effective vibration-dampener.



★ BETHLEHEM STEEL ★

PHILCO FLOTÉ BATTERIES

ELIMINATE THE PROBLEM OF LOW CELLS IN FULL FLOAT SERVICE

Typical Philco Battery Installation, Pennsylvania Telephone Corporation, Johnstown, Pennsylvania

When Philco engineers pioneered the famous Floté grid, they eliminated for keeps, the problem of low cells in full float service. By casting the grid in a special metal, developed by Philco research expressly for this purpose, they changed the chemical reaction within the cell so as to remove the *cause* of low cells. This important milestone in storage battery progress is one of many advanced features which make Philco Batteries tops in efficient, trouble-free performance and long service life. It is one of the reasons why so many prominent Telephone, Power, Light and Industrial companies specify Philco Batteries, over and over again. Write for latest Philco Battery catalog featuring batteries for your specialized needs.

PHILCO CORPORATION
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Specify PHILCO STORAGE BATTERIES

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Backed by 50 years of experience in industrial storage battery development.

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Weak Links

By J. C. CROWLEY, JR.

Secretary, Minnesota Telephone Association

In an address before the recent Iowa convention, Mr. Crowley emphasized the points where owners and managers of small Independent telephone companies might neglect their plants and service to the public.

A FEW weeks before I received an invitation to appear before the Iowa convention I went through my files for statistical data that might give me more information on the telephone situation in Iowa, and I found a memorandum on "A Report of Progress" by the Public Service Division of the Iowa State Planning Board, as of April, 1935.

I was particularly interested in the report of the Public Service Division, and in my opinion it is well worth reviewing, for in it we find that it mentions many of the weak links that I intended to touch upon.

It is the policy of the Public Service Division of the State Planning Board to give conscientious, unbiased study to the problems attached and to arrive at conclusions, when possible, that will benefit directly and indirectly the greatest number of people. The planning board is a constructive body, planning for a better state; where criticisms are cast, a definite constructive plan is given whereby that which is criticized may be altered.

Objectives of the board included:

(1) To determine existing public service facilities as relating to radio, gas, telephone, telegraph, urban and rural electric services.

(2) To obtain pertinent data on the size, location, use, operation, and physical condition of such service facilities.

(3) To study the many costs and factors affecting the rendering of such services and the rates charged.

(4) To analyze the past uses, extent and trends, of such services and the possibilities as to future development.

(5) To study the general organization and financial structures of public service groups, municipal and private.

(6) To study and evaluate existing public services with a view of determining their correlation and equitability of service to both industry and the rural and urban homes.

(7) To provide a definite plan of education, control, coordination and development of all public service groups to realize the full potentialities of commerce and industry and a higher standard of living in our homes.

(8) To educate the public to an appreciation of the services rendered and their costs, and to promote public welfare, comfort, goodwill and understanding.

(9) To provide a plan whereby public service groups may, where economically sound and warranted, render service not heretofore possible.

The purpose of the Public Service Division is planning; planning for better public service, planning for future development, planning for harmonization, cooperation and economization; to rectify the abuses of the past, and to make a return, in some measure, for the losses suffered during the past, suffered because of the very lack of planning and coordination.

As to the telephone industry the report said:

(1) Telephone companies of the state are being visited as rapidly as conditions permit, and data pertaining to their operation is being obtained, as follows:

(a) Employes—number and wages paid.

(b) Switchboard data—make, age, capacity, type, positions, drops in use, customers served (rural, residence and business), auxiliary equipment, condition of equipment, taxes paid, operating costs, ownership, etc.

(c) Miles of wire, miles of cable, miles of pole line—construction and condition.

(d) Free service and toll lines.

(e) Rates (business, residence, and rural), switch fees, etc.

(2) A study was made on trends in service over a period of years, using U. S. Bureau of Census and State Board of Assessment and Review reports.

I will quote a part of the report of progress by the Public Service Division of the Iowa State Planning Board as it pertained to telephone service:

"The telephone systems of Iowa, particularly the private ones, have suffered greatly during the depression; customers have been lost and repairs and replacements have been neglected. In 1930, the Northwestern Bell Telephone Co. was operating in 157 cities and towns in Iowa, while Independent telephone companies operated in 778. Until the final check is made on the rural and urban surveys now in progress, no figures can be given on present services.

"It is the purpose of the present State Planning Board study to present the actual, existing conditions; the effects of the depression on the

telephone industry and, if possible, to suggest a method for restoring service, from the standpoint of both the operating companies and the people of the state seeking telephone service.

Physical Condition

"Almost all the mutually owned, and a few of the small privately owned, telephone companies' lines and exchanges are in very poor condition and near the end of their service life. Many miles of lines are so corroded that splicing of broken lines is almost impossible. Few splices were ever soldered. Many poles are decayed, some are propped up, and some are hanging or lying flat. Through timbered areas, wire is ingrown into trees. Switchboards antidate the recollection of present operators; repairs in many cases, are made by the local blacksmith, or by the clumsy proddings and twistings of one of the operators, untrained in the use of tools.

"The Bell System and the larger Independent telephone companies are maintaining their systems in fine condition.

"With many switchboards and much physical equipment worn out and obsolete there can be no question about the need for rebuilding. The managers of many companies have stated that they would like to replace poles, wire, cable, switchboards and other items if they had the money. There is much to be done and there will be a large market for all types of telephone equipment when economic conditions improve.

"One of three things will soon take place in Iowa:

"(1) Farmers or private owners will reach deeply into their pockets to build systems anew.

"(2) A large number of people will lose the convenience of a telephone—many have already lost their telephones.

"(3) The Bell System, or other private owners, will take over the properties of the failing systems and rebuild them.

"Most of the companies have reported lines on which inductive interference has been excessive at times. In most cases, these lines parallel power transmission lines. Only by metallicizing the circuits can this condition be remedied; doubtless many companies will make this improvement when conditions permit.

"Some thought should be given to the proper subscriber loading of rural lines. No matter how well equipment and plant are maintained, satisfactory service cannot be given on lines with twenty subscribers. Ten telephones on a line make a satisfactory load.

"Nearly two-thirds of the employes

J. C. CROWLEY, JR.

of the Independent telephone companies are women. In many cases, a family is found to be the owner. This family manages, operates, and makes the line repairs. Similarly, for the mutually-owned systems, a family takes care of the entire business. In most cases the exchanges are kept in the homes.

"The decrease in the number of subscribers has had little, if any, effect on the number of employes. Most of the companies are reporting the same number of employes that they had in 1929. Salaries, however, have been reduced drastically. In some cases, whole families are employed for $45 per month or less, when formerly they commanded $100 or more.

Quality and Extent of Service

"With but few exceptions, the quality of service, on the small systems, is only fair. There are few metallic circuits outside the larger towns and on toll lines. Almost all of the latter are owned and operated by the Bell System.

"Many rural lines are overloaded. In the second or third ring, receivers come down all along the line, making it difficult to complete the call. Subscribers have become so used to poor service that they do not realize that improvements are possible. Many farmers have ceased to pay switching fees through their mutual exchange, and yet remain on their local line. Occasionally they do "get through" the switchboard. Such men are parasites to the system.

"Eighty-four per cent of the farms of the state were reported to have service in 1930. Although the percentage for 1934 is not known, we do know that, in the southern counties of the state, almost every system has lost 40 per cent of its subscribers. The 1930 census reported one telephone for every 5.3 persons in the state. At present the ratio is likely less than 1 to 6.3.

"Most telephone companies in the state operate 'free service' lines to surrounding towns. Usually each company owns half the line to the connecting exchange. In almost all cases, these lines are grounded circuits of iron wires. It frequently is possible to build up connections so that subscribers may talk through as many as 30 towns, even though the transmission, in some cases, may be so poor as to require 'repeating' by the operators. Because of reciprocal relations between companies, no charge is made to subscribers for this service. Many companies have expressed dissatisfaction with these 'free service' lines, but feel that they are forced to provide them because other companies do so.

"One company is trying to discourage the use of these free service lines through their exchange. They refuse to give good contacts, frequently 'cut off' conversation, and otherwise wilfully make such service undesirable. Customers do not understand why they cannot always have this service; they consider it a part of their rights as subscribers. The only way that this 'free service' can be eliminated is through cooperative action of all companies in the association, and even then a few customers will be lost.

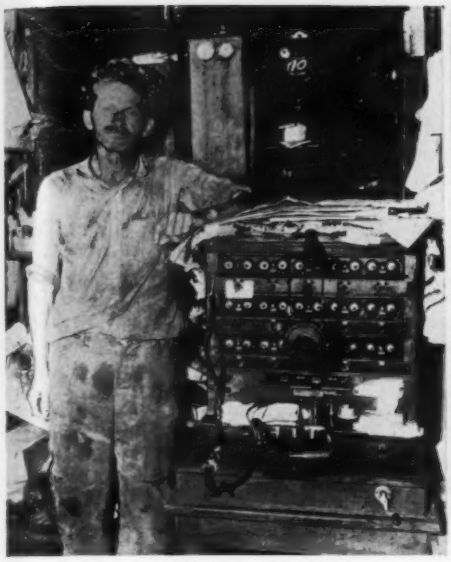
"These 'free service' systems really amount to toll services. If the lines were made metallic, and maintained in first class condition, charges could be made which would aid the companies in maintaining their systems.

Service Costs and Rates

"Very few of the mutual telephone systems use even a semblance of method in determining rates. Rather, they have reduced rates without regard for maintenance expense, to the end that the condition of equipment precludes the possibility of rendering adequate service. Feeble and ineffectual efforts are made, by subscribers, to collect fees and repair lines.

"The result of such practices is the dissipation of the original investment, with no provision for rebuilding. Consequently, if the mutual company is to maintain the service, the subscribers must be assessed to provide funds for rebuilding.

"The 'service-below-cost' rates charged by so many small systems have caused the rates charged by well-maintained systems to appear excessive. If people would only stop to consider all the factors involved in ownership (if people did consider, few would care to own a small telephone company) — original investment, interest on investment, risk, collection difficulties, maintenance of service, the independence of those served, etc.; they would realize that the owner is being pushed to the



LEVI NAGLE (above) is the owner of a Nineteenth Century telephone system which is still being used satisfactorily in the little community of Interlachen, Fla. His mother, Mrs. Adeline Cecille Nagle, is his only switchboard operator.

Said to be the oldest, and certainly unique, now in operation in the state, the West Putnam Telephone Co. has 30 telephones scattered over 60 miles of wire. Most of the wire is nailed to poles and tacked to trees; some of it even lies on the ground.

Interlachen is a community of about 250 people, 15 miles west of Palatka. The telephone system not only serves Interlachen, but also reaches Grandin, Florahome, Manville and Keuka.

Most unusual feature of the system is the old-time switchboard in the central office. It is of the old magneto, hand-ringer signal type made by the Western Electric Co. about 1885. The board has been in continuous operation at Interlachen since 1912.

limit by rates that he is receiving for service. We criticize the lack of maintenance, but why should one keep putting money into a losing investment? The lowest rates are considered the fairest rates; if the private owner demands a higher rate than that paid by neighboring mutual groups, the subscriber strenuously objects. He declares that the telephone is a convenience, not a necessity, and as a result, his telephone goes into a truck. The subscriber should realize that, if the telephone business were a lucrative one, a service would be maintained in the best condition lest a competitor enter the field with better service and equipment.

"The Bell telephone company gives good service, and maintains its equipment in fine condition. Bell customers don't break the company if rates aren't reduced to meet those charged by a mutual. Such, however, was the fate of one small company in the state. The owner, a banker, started removing telephones from homes that refused to pay. The customers retaliated by making a run on the telephone owner's bank.

"This criticism is not made of any individual, but of the entire service. We realize that buying power is very low, and that at present the telephone rates, even at 'below' cost levels, are too high for many incomes. The horse has been stolen, but we can put a lock on the stable door before we get another horse; let's reorganize the rate system, do some rebuilding, and try to make depreciation allowances to maintain the systems. Much education will be required to make the public appreciate the justice of higher rates; some persons will refuse to pay, but in justice to the others, they will have to get along without service. It will be difficult to obtain funds for rebuilding and, for a time, to collect higher rates; but as conditions are adjusted and management improved, it should be easier.

"In the past, rates charged by private companies may have been adequate. But, instead of building up reserves for depreciation and maintenance, the assets were dissipated through excessive dividends. It is unfortunate that, in many cases, systems needed rebuilding just when economic conditions were worst.

"Our survey shows that rates vary between $4.50 and $24 a year, with $12 a year the most common. Reports indicate that collections of $4.50 are almost as difficult to obtain as the higher ones. Few data on cost of service were available. Systems of accounts rarely were found. Managers start putting down estimates of costs when asked about operating costs. Most mutual systems have no costs other than the salaries of the operators, four sets of batteries per year for the switchboard, and some incidental repairs. As each line is owned by its subscribers, the mutuals rarely have reports to the State Board of Assessment and Review.

"Many of the privately-owned systems have the same difficulties, insofar as furnishing cost data is concerned.

Accounting Practices

"Insofar as private and mutual telephone groups are concerned, an accounting system is an exception rather than a rule. For example, in a survey of three counties, averaging at least eight mutuals and two private companies (other than the Bell), to a county, three companies were found who make a simple financial statement of receipts and expenditures. In no case was depreciation considered, although all admitted that depreciation was a fair cost. The financial statements were made more for determining rates for the ensuing year than for any other purpose.

"Few managers are familiar with bookkeeping procedure, but several have expressed desires for a simple system of records and accounts. The task of making a report to the State Board of Assessment and Review is an ordeal, chiefly because of poor records. Very few, if any, of the small companies know, even approximately, the real value of their property. The managers are utterly lost, in many instances, if asked the age of a piece of equipment. Because of the meager records, there is some doubt about the actual financial condition of many companies. If customers pay their rate assessment promptly, the operators re-

ceive their small wage; if collections are slow, the operators must wait.

"For two or three dollars, each manager could procure an authoritative text book on accounting procedure, with simple illustrations of accounts and financial statements. Such a text should contain a clear discussion of depreciation as a cost of operation. If sound systems are to be maintained provision must be made for this item.

"If a public service commission is created, it should distribute sample sets of simple bookkeeping forms, with instructions for their use. These forms should provide all information required by the different governmental agencies, and such information should be submitted to the commission each year on a standard report form. [ED. NOTE: *Iowa does not have a public service commission.*]

"The commission also should have sole jurisdiction over rates, and should undertake to educate subscribers to an appreciation of the importance of operating costs as a basis for rate structures."

In my opinion, you men and women of the Iowa telephone industry, as well as the citizens of the state, are fortunate indeed to have a State Planning Board that has felt free to criticize and point out so plainly wherein the fault lies as to the shortcomings of some of the telephone companies operating in your state.

I should welcome such a survey in Minnesota, for we, too, have many weak links. While we, like your own state, have made some progress in bettering conditions, this progress is slow and tedious upon those who are trying to correct these conditions.

As yet, in my many years of experience, I have been unable to find the answer to how to help the fellow who refuses to do anything to help himself.

It does appear to me that, with the support of the above report to those who desire to correct some of the conditions stated therein, here is an opportunity to point out to those weaker companies the ills that they have inherited as a result of their neglect and mismanagement of the investment in their properties by furnishing such an essential service below costs of rendering such service. In many instances this has been at the expense of those employed and without regard to a fair return upon the investment, depreciation or obsolescence.

I am of the opinion that sooner or later the telephone using public within the communities being served by those companies which continue to neglect and ignore the necessity of modernizing and improving their service will rise in protest to such services and demand that it be improved and the management responsible for such neglect be retired. When that time arrives, there will be very little sympathy expressed by those who have suffered for the want of satisfactory service, or those in the industry who have done the best they could to render a satisfactory service at a reasonable cost, considering their employes, their stockholders' investment and the proper upkeep of their properties.

Here are some things we have learned during the past decade:

(1) Reducing rates during the depression did not stop the loss of telephones.

(2) Companies which maintained their rates and service were the first to regain their lost stations. Many such companies are beyond their former peak of stations served, while those which reduced their rates are still showing "red ink" balances.

(3) The public wants service and price is a secondary consideration.

(4) Where the facts as to investment costs of operation and maintenance are furnished those who pay for a satisfactory service, there is no objection to the company making a fair return upon its investment. I am convinced of the above statements in view of the fact that during the past 36 months I have had approved rate increases by both the Minnesota commission and the OPA for 26 companies, amounting to an increase of over $42,000 in annual gross revenues.

In my opinion, the weak links confronting the small companies include:

(1) Lack of proper accounting methods.

(2) Extending too much credit. I have known of some companies having at least one-half of one year's gross revenues outstanding.

(3) Failure to inspect semi-annually or annually equipment on subscribers' premises for purposes of repairs, adjustments or replacements. In other words, preventive maintenance. It costs less and promotes public relations.

(4) Liberal compensation to those employed in the industry so as to maintain a competent and courteous force of employes.

(5) Failure to include all costs of giving service, such as depreciation, in setting up rate schedules.

In conclusion, I would like to sound a note of warning to those responsible for the apparent negligence of proper upkeep and lack of business methods in the conduct of the telephone business in their respective communities.

Thousands of young men and women have joined the services of Uncle Sam —many of them in the Signal Corps. There they have learned the use and efficiency of modern methods and apparatus, and when they return home, no longer will they tolerate antiquated or inefficient telephone service.

A Westlake telephone subscriber in the Cincinnati (Ohio) area asked information for the number of a family named "Snow" in her community. After scouring her records, the operator reported, "We have no 'Snow' in Westlake."

"Oh, yes, we have!" brightly exclaimed the patron whose mind had drifted momentarily from the matter at hand. "It's been snowing all day long . . . ah . . . that is . . . thank you."—HELLO.

>> *Telephone advertising in 1902. "Wise burglars shun residences having telephone service." A company folder displays a picture showing a Gibson girl version of a pretty bride calling her husband's downtown office from a wall telephone in her home. The caption: "His voice comes over just as plain, my dear." Another picture shows hubby's efficient PBX Miss Smith, complete with towering pompadour, hour-glass waist, and balloon skirt.*—Public Utilities Fortnightly.

ABC of the Telephone

By FRANK E. LEE

Part II. In this article on the fundamentals of the telephone, the author discusses and explains a few principles of electricity — the common denominator of the instrument.

THE COMMON denominator around which we form the theory of telephony is electricity. Electricity is a natural phenomenon which no one has been able to define. However, without knowing what electricity actually is, its reaction in various devices has been studied, observed and may be controlled.

Inasmuch as electricity cannot be seen, other means have to be used to indicate its action. The words "circuit" and "current" are commonly associated with electricity. As the word "current" is naturally associated with water, a study of the principles of water flow in a circuit of pipes will give a picture similar to the flow of electric current in a system of conductors or wires in a circuit. This simile has developed into the water analogy of electric current flow.

Analogy is defined by Webster as a resemblance of relations, agreement, or likeness between things in some circumstances or effects when the things are otherwise different.

It is with this thought in mind that the action of water under various circumstances is used as an analogy of the action of electric current under comparable conditions.

Water is usually considered as flowing downhill, at least this is the common understanding. However, under pressure or other action it may be transformed or forced through a complete circuit. It may be drawn up into the air through evaporation and then come down again in the form of rain, or it may be pumped to a high point and allowed to flow down to the low places again. Advantage may be taken of this natural process of the circuit, by harnessing the water on its downward course to generate plants or water wheels to change the water power into another form of energy. Electrical and water circuits are comparable when the complete water circuit is kept in mind.

The storage tank shown in *Fig. 1* has in it a certain amount of water. The bottom of the tank has an outlet connected by a pipe to a meter called a flow meter which shows the rate of

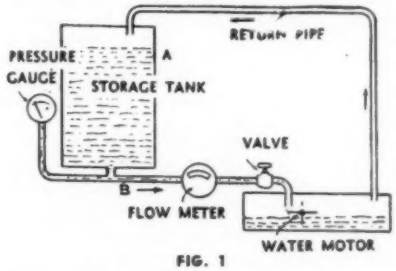


FIG. 1

water flow. From here the water passes to a control valve which, when open, lets the water pass to a lower tank. As the water flows, the paddle wheel of the water motor is turned. A return pipe from the lower tank carries the water or air back to the main tank. A pressure meter shows the amount of water pressure in the system.

The water storage tank in *Fig. 1* has been replaced by a storage battery in *Fig. 2*. A wire connects the storage battery with an ammeter through which the current passes just as water passes through a flow meter. Instead of a shut-off valve there is a switch, which, when closed, allows the current to pass from the ammeter to the electric motor. This motor is driven by the electric current, the circuit being completed through a return wire from the motor to the other battery terminal.

From *Fig. 2*, it can be seen that the electric current flows from the positive (+) terminal of the battery to the negative (—). Water flows through a pipe when there is a difference in pressure, as for example between the top of the tank A and the bottom B *(Fig. 1)*. In the same way an electric current flows through a wire if there is a difference in potential (electric pressure) as between the terminals of the battery in *Fig. 2*.

Electrical potential (pressure) for the sake of simplicity may be likened to the pressure of water at rest, although the flow of current is not in every way like the flow of water. Liquid pressure is directly proportional to its depth. For example, in *Fig. 3* the pressure at the bottom of tank A is greater than the pressure at the bottom of tank B. Therefore, the water from A will flow into B through pipe C until the height of the water in tank A is the

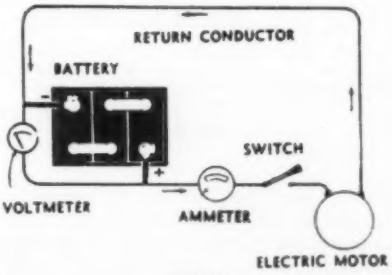


FIG. 2

same as it is in tank B. Then there is no longer a difference in pressure. In the same way, electric current continues to flow through a wire until the

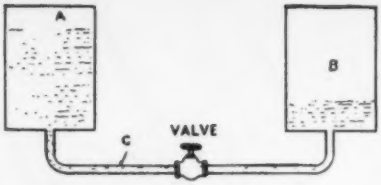
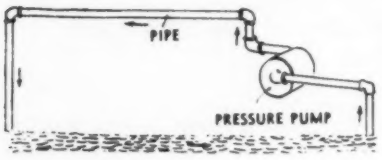


FIG. 3

battery discharges or runs down so there is no longer any electrical pressure.

Before the pressure is lost in tank A *(Fig. 3)*, the valve can be closed, stopping the flow. In the same way, the flow of electric current can be stopped by opening the switch in *Fig. 2* thus retaining pressure in the storage battery.

Water can be forced to flow through a system of pipes by means of a pressure pump. In like manner electric current can be forced through a circuit by means of a generator *(Fig. 4.)* A detailed discussion of magnet conductor movement as a means of generating electric current flow will be given in a later installment.



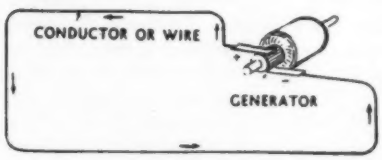


FIG. 4

Water pressure is measured in terms of pounds per square inch. Increased pressure means increased water flow.

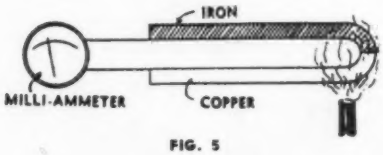


FIG. 5

In an electrical circuit, pressure is measured in volts, the volt unit of measurement being used to denote the strength of the electromotive force. The term electromotive force, abbreviated EMF, more clearly describes this characteristic of electric current flow. As the name implies, electromotive force is the force that moves the electricity through a wire or circuit. An increase in EMF or voltage will result in a corresponding increase in current flow in a given circuit.

In the water system not only is it necessary to know the water pressure, but also it is necessary to know the rate at which the water is flowing. The rate of flow is measured in gallons per minute. The rate of flow of electricity is measured in amperes. An ampere is a practical unit of electric current measurement and is the current produced by one volt acting through a resistance of one ohm.

The quantity of electric current flow is measured in units called coulombs. A coulomb of current is the quantity of electricity conveyed in one second by the current produced by an electromotive force of one volt acting in a circuit having a resistance of one ohm. From this it can be seen that amperes measure the rate of flow whereas the coulomb measurement takes into consideration a definite time interval. Therefore, when a coulomb of current flows past a given point in a conductor at the rate of one coulomb per second, one ampere of current is flowing.

The following table gives a summary of the terms used in comparing an electric circuit with a water circuit.

Water	Electricity
Pressure	Volts
Flow	Amperes
Pipe	Conductor
Pump	Generator
Valve	Switch
Friction	Resistance
Quantity	Coulombs

Electricity should be looked upon as a natural form of energy. It is a force that can be created only by using some other form of energy. By changing a natural force such as water power into electric power, the power created by the falling water can be distributed more readily over a large area at an overall low transmission cost. Electricity must be either stored in storage cells until it is needed or produced as it is needed.

There are various methods by which electricity is produced, including the following.

Friction: The friction resulting from rubbing two different substances together produces "static" electricity. For example, amber when rubbed attracts bits of paper and other light objects. Many other substances, glass, hard rubber, etc., have the same properties. This method of producing electricity is not used commercially. It was a means by which studies of electricity were made before other means were developed to produce electric power.

Thermal: When different metals, like copper and iron, are joined and heated at the point a small amount of electric current will flow between the free or unjoined ends *(Fig. 5)*. Again, this method of producing electricity is not used commercially.

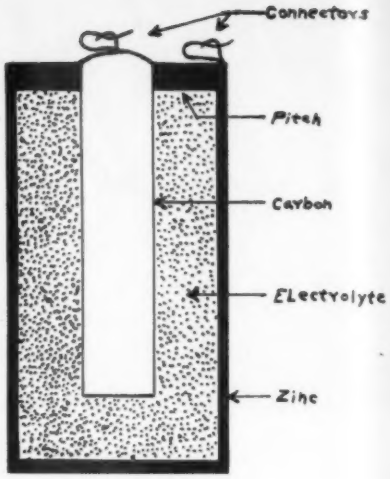


FIG. 6

Chemical: This method consists of placing two different elements in a proper solution, called an electrolyte. The solution acts more quickly on one element, producing a difference in voltage. When two such elements are connected to an external circuit, current will flow. The dry cell and the wet cell are examples of producing electric current chemically.

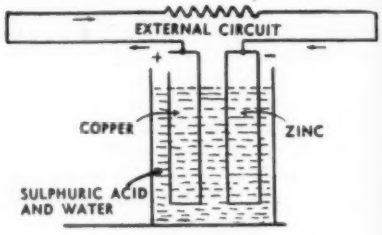


FIG. 7

The dry cell *(Fig. 6)* is composed of a zinc can in the center of which is a carbon rod. Between the can and the rod is a chemical filling-in-paste-form composed of ammonium chloride and manganese dioxide. The top of the cell is filled with a sealing compound, such

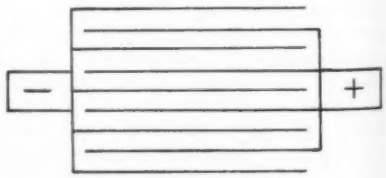


FIG. 8

as pitch. Both the zinc can and the carbon rod are fitted with electrical connections. The carbon rod is the positive terminal; the zinc can is the negative terminal. The dry cell has a fairly constant voltage which is usually about one and a half volts. This decreases as the cell is used. When the voltage has decreased to a little over one volt, the cell is usually discarded.

The other type of chemical cell known as the wet cell, is shown in *Fig. 7*. In the wet cell a zinc bar is the negative terminal and a copper bar is the positive terminal. The electrolyte is sulphuric acid and water. Cells in which an electrical pressure is produced as soon as the electrodes are immersed in the electrolyte are called primary cells. It is impossible to reverse the chemical action that takes place in these cells.

When a dry or a wet cell is connected to an external circuit, the current flow is from the positive terminal to the negative terminal. Inside the cell the current flows from negative to positive, as a result, the zinc will be eaten away as the cell is used.

Storage Cell: A storage cell does not create an electric current in the same manner as do the chemical cells. However, the widespread use of storage cells in the telephone field warrants discussing this cell as a means of producing electricity.

The chemical action in a storage cell is reversible. A current must first be sent through a storage cell in order to cause the chemical changes, which result in putting the electrodes and electrolyte in such a condition that they will be capable of producing an electric pressure when the chemical changes, caused by the original current, are complete.

Once the cell is charged, it will have all the characteristics of the chemical cell and may be used as a source of electricity until discharged. When the cell is discharged it may be charged again. The chemical action in discharging causes current to flow and the reversed flow of current from an external source, such as a rectifier unit, causes reversed chemical action. The name storage cell comes from the fact that it is possible to send a current of electricity through the cell for a certain length of time, then at a later time a current can be drawn from the cell for almost the same length of time.

FRANK E. LEE

In the storage cell the electrodes are lead and peroxide of lead, and the electrolyte is a mixture of sulphuric acid in water. The electrolyte has a greater chemical effect upon the peroxide of lead, therefore this electrode is the positive terminal of the cell.

Fig. 8 shows the arrangement of the electrodes in a storage cell with nine plates. Five slate gray plates are connected together to form the negative electrode, and four dark brown plates similarily connected form the positive electrode. Increasing the plate area of the cell in this manner greatly increases the capacity of the cell. These thin plates, which are made to fit into the hard rubber outer shell, are kept separated from each other by wooden or rubber separator blocks and also by grooves cut in the ends and bottom of the shell.

The electrolyte should be kept at a level that is about one-half of an inch above the plates. The cell is properly filled at the factory with sulphuric acid and distilled water. The acid in the electrolyte does not evaporate and it will seldom be necessary to add acid. However, water in the electrolyte does evaporate and should be replaced by adding distilled water which should be kept in glass or porcelain containers especially for this purpose. Ordinary water handled in metal vessels contains impurities which will tend to eat away the thin plates of the electrodes.

The chemical change created in the cell by the charging action of the external current creates an acid within the cell. Acid is heavier than water. The heavier the elecrolyte the more acid it contains, and the more nearly it is fully charged. This comparison of the weight of the elecrolyte with the weight of an equal quantity of water determines the specific gravity of the electrolyte. A hydrometer is used to obtain specific gravity readings. From these readings the charge of the cell can be determined.

The following table sets forth the meaning of the average typical specific gravity readings as related to the charge condition of the cell:

Specific Gravity reading	Condition of cell
1.300-1.250	Fully charged
1.250-1.200	More than half charged
1.200-1.150	Less than half charged
1.500- and less	Completely discharged

A storage cell will give a long period of service if care is taken to prevent over charging or extreme discharging. Either of the two will result in damage to the plates. In line with this care it is well to maintain a continuous record of specific gravity readings, as well as sytematic method of maintaining the level of the electrolyte.

(To be continued)

A Cincinnati (Ohio) subscriber thought such prompt service had gone out for the duration, and was amazed to find that despite the war, America still has a few surprises in the bag.

This Cincinnati subscriber wished to discuss a matter of importance with his son, a petty officer at the Naval Air Station at Pensacola, Fla. War was on the wires again, but the operator promised action at the earliest possible moment. As the man hung up, someone knocked at the door. It was the petty officer himself, home on a surprise visit. "A wonderful invention, the telephone," breathed father.—HELLO.

New angle on recent Michigan Supreme Court decision eliminating excess profits taxes as operating expense discussed. . . . Future telephone directories may resemble municipal edition of "World Almanac."

A FRIENDLY reader of this department — a man learned and experienced in the law of public utility regulation—has made an interesting and critical observation concerning comments which appeared in these pages in the June 3 issue. This was the discussion of the recent decision of the Michigan Supreme Court in the Detroit Edison case.

Readers may recall that your correspondent assumed that the court had virtually directed the commission to fix rates for Michigan utilities—rates based on the proposition that a utility's payment of excess profits taxes to the federal government may not be charged to operating expenses. In the case of the Detroit Edison Co. this would result in a substantial rate reduction, as would be the case if the same regulatory policy were applied to other Michigan utilities.

In adopting this construction of the court's opinion, this writer followed the lead of the Michigan Public Service Commission itself. As a matter of fact, the chairman of that board, immediately after the court handed down its 4-to-3 decision, called a meeting of all Michigan utilities to determine a formula for reducing rates in line with the court's opinion.

But there is, as the aforementioned reader of this department pointed out, a much less disturbing and even more simple construction of the court's opinion—even though the state commission has as yet not followed it — a course which other state commissions have taken.

Stated succinctly, our reader thinks that the Michigan court merely intended that the commission of that state should consider what the return available to a utility company would be if all or part of its income subject to excess profits taxes were eliminated, and *thereafter* decide whether that return is a fair return. Obviously, under such circumstances, it would have the discretion of allowing rates that would yield a fair return notwithstanding the payment of excess profits taxes.

The majority opinion of the Michigan Supreme Court did say that "the stockholders of the utility . . . are at all times entitled to a fair return on their investment."

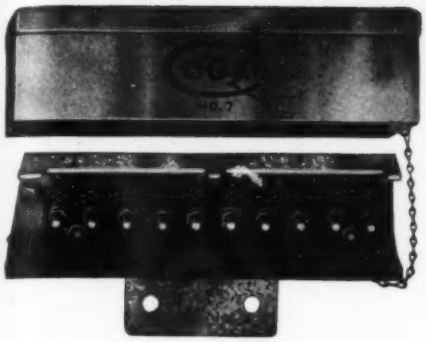
If we take the other view—the view which the Michigan commission has taken; namely, that utility rates should be arbitrarily reduced by the amount of the excess profits tax liability, regardless of the resulting effect on return to the investors, we could likely carry such a construction to an extreme so absurd as to make it clear that the court could never have intended it.

In other words, the commission's interpretation assumes that the court prohibited charging of all "avoidable expenses" to regular operating expenses. An excess profits tax is an "avoidable expense" because it can be eliminated by reducing rates and cutting down revenue on which the tax is based. Therefore, the excess profits tax cannot be charged to operating expenses and must accordingly be taken care of out of earnings. This construction would leave the commission and the utility little choice except to reduce rates by a corresponding amount so as to eliminate the excess profits tax liability entirely.

But let us take that same construction a step further and we can easily see how absurd it is. Consider this: If liability for excess profits tax can be eliminated by reducing rates to cut down revenue — liability for *all* corporate income taxes can be avoided by cutting down rates so as to do away with revenue entirely! Therefore, all corporate income taxes are "avoidable" and the commission should therefore reduce utility rates until the company has no net income whatever. This would make the average utility function for charity.

Of course, the court may have intended to draw a line and say that excess profits taxes are "avoidable" but that corporate taxes are not. But its

TOPS *in*



OPEN WIRE PROTECTION

The TYPE 7 HIGH POTENTIAL LIGHTNING ARRESTER

provides lightning protection and static drain for 5 pairs of open-wire circuits. This arrester is also used for the protection of drop wires and cables terminating in unprotected cable terminals where atmospheric conditions require constant static drain.

Insulation and fanning strip are single-piece molded bakelite. Non-corrosive metal hood, Everdur studs, and galvanized mounting bracket assure satisfactory service and long life. Phosphor bronze spring clips accommodate non-grounding, Tru Gap lightning dischargers.

Engineered, designed and manufactured by Cook Electric Company, the Type 7 Lightning Arrester, like all Cook products, is "tops" in performance, and is your guarantee of dependable service.

ARMY E NAVY

COOK ELECTRIC Company

Telephone Protection & Distribution Engineering Since 1897

2700 SOUTHPORT AVENUE • CHICAGO 14, ILLINOIS

opinion made no such distinction. To avoid this absurdity it is necessary to go back to the construction first stated. The District of Columbia Public Utilities Commission early this year took the view that where excess profits taxes are not considered as operating expenses, the rate of return must be given corresponding consideration — meaning a more liberal return than if excess profits taxes were allowed to be charged to operating expenses. More recently the Missouri Public Service Commission in Public Service Commission v. Springfield Gas & Electric Co., 53 PUR (NS) 106, allowed a 6½ per cent return after a reduction had been made in revenues to absorb federal excess profits taxes.

* * *

With all the real fireworks going on around the fighting fronts, the usually articulate circles of business regulation are rather quiet around Washington these days. Could be the warm spring weather had something to do with it. Anyway let us have a bit of a book review, this time. The volume which will be reviewed is one which critics without exception have apparently ignored—your telephone directory.

We are not talking now about the telephone directory of today, which the shortage of paper and other wartime restrictions have reduced to a more or less utilitarian collection of numbers and useful classified advertisements. No, the telephone book of tomorrow, according to the advance dope recently picked up by this correspondent is going to be a book worthy of review by any first-string book critic, if indeed it does not challenge the attention of the sports and drama departments of the press of tomorrow. It is going to be a book packed with thrills, suspense, historical incidents. It is going to have pathos and bathos, dignity and cheesecake—all, ladies and gentlemen, at no extra charge.

It sounds ridiculous? Perhaps, and maybe this writer is painting the possibilities too floridly. But it all came about as the result of the war and the vast improvements which have been made possible in the technique of handling microfilm through the tremendous volume of V-mail.

The connection is simply this: They have got the microfilm trick down to the point where the entire text of the King James Bible can be reproduced, page for page, on a roll of film about the size of a spool of thread, with the combined works of William Shakespeare thrown in for good measure. It was only natural that the microfilm experts began thinking in terms of other applications of this remarkable process for taking pinpoint pictures and blowing them up to the size of a normal page of type.

As a matter of fact, the microfilm people were already busy with this idea long before World War II broke out. A number of the large public utility systems had reduced their customer accounting records, which formerly consisted of cards for each customer occupying acres of filing cabinets, to small, handy size arrangements, easily fitted in one end of an office room. These are equipped with special alphabetical indexing gadgets which come up with the right name or number almost instantly.

But it was the war and the prodigious filing and indexing needs of the armed services which gave the microfilm boys their real job. Several weeks ago this writer happened to visit an army officer in the Pentagon Building, when this subject came up in the conversation. The officer in question stated that microfilm filing and indexing of service records and other classified data for every member of the commissioned and enlisted personnel of the Army, Navy and Marine Corps had been established or was in the process of establishment.

Aside from the space saving involved, this technique lends itself admirably to duplicate production of revised lists which can be easily and quickly flown by plane to branch offices in various corps areas or theater headquarters. Your correspondent asked about the ability of such filing mechanisms to locate a given alphabetical combination quickly. The officer walked up the hall to another office where there was located an instrument with a little screen in front of it. He flicked on a projection light and said:

"This device controls an alphabetical series, so detailed that a half-dozen ordinary file cabinet drawers full of cards would not get you through the single letter 'C' in the alphabet."

Then we looked on the screen which began with "CAA" and the officer turned a knob. The screen projected a moving series of alphabetical combinations which progressed so rapidly that it was almost like a moving picture.

"Ask for a name beginning with 'C'."

The name "Clinton" was suggested. In a second the screen had whipped through from the "CAA" combinations to the "Cl." In another second the control knob had slowed the whirling index down until the first card with "Clinton" came to a dead stop.

This writer was impressed. But he thought no more about the interesting device until several days later when a telephone directory man of the old school, but one who thinks very much in the future, happened to drop into Washington and visit the editorial office. When the question of possible application of microfilm to the telephone directories of the future came up in conversation, the directory man was all attention.

"We have been thinking about it for a long time," he said, "and I feel confident that after the war we could go into microfilm if that is what the industry really wants and needs. But I am not convinced yet that is so."

He went on to say that there are plenty of bugs in the immediate application of the microfilm technique to telephone directories. In one way it might simplify operations. Instead of sending a truck around to pick up old directories and distribute new ones, the telephone companies might simply mail the new editions of microfilm directories in cartons by parcel post. It would be a simple operation for the subscriber to load his own projector. It could be made no more difficult than loading an average camera. More likely, however, to avoid tampering, the companies, under such circumstances, would prefer a sealed projector which could be loaded only by a company employe.

The projector itself would be a somewhat expensive and difficult mechanism for practical telephone operation. If it were installed in the base of the telephone instrument itself, as some interesting "dream articles" have already suggested, it would interpose the problem of a house electric connection for the projection light. And good telephone practice has always been to avoid entanglement of telephone facilities with electric supply facilities. This, aside from other obvious commercial and plant production problems.

If the projector were supplied as a separate instrument, the questions of customer ownership, maintenance and general expense would continue to be headaches. Most serious, indeed, from the telephone companies' point of view would be the probable loss of advertising revenue, which has for so long a time, been a comfortable by-product of the conventionally printed directory. True, there is nothing to prevent advertising material from being microfilmed just as in the case of any other kind of printed text.

However, the very rapidity of the index-finding mechanism would reduce the display appeal of such advertising to practically zero—certainly nothing to compare with the advertising appeal of the conventionally printed ad. As a matter of fact, the maximum efficiency of a microfilm directory list would reduce the screen to dimensions

(Please turn to page 26)

Right Out on the Span–

MONOTYPE DROP WIRE

Every time you have to take off a drop from the middle of a span, you'll be thankful for the built-in quality of Monotype Drop Wire. Its tight, firmly braided covering is slicked smooth—threads easily through the cable rings, for a quick job of installation. And once installed, it puts up a real battle against wear and weather. Years from now, your Monotype drops will still be giving you trouble-free service.

When you *must* buy drop wire, be sure you get Monotype quality. And please order well in advance of anticipated requirements.

MANUFACTURED FOR

AUTOMATIC ELECTRIC COMPANY
By GENERAL CABLE CORPORATION

DISTRIBUTED BY

AUTOMATIC ELECTRIC
SALES CORPORATION

1033 WEST VAN BUREN STREET • CHICAGO 7, ILLINOIS

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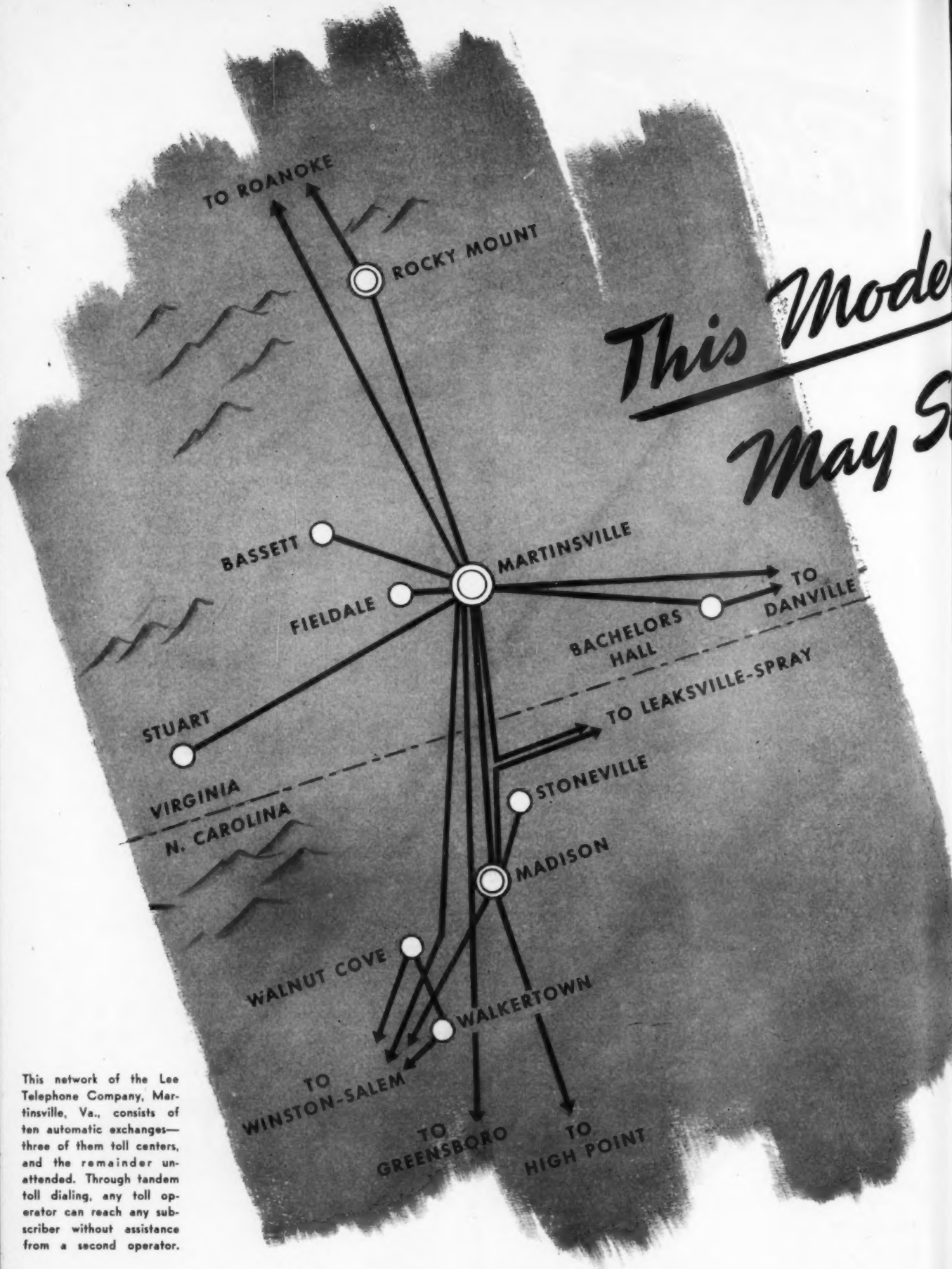


This network of the Lee Telephone Company, Martinsville, Va., consists of ten automatic exchanges—three of them toll centers, and the remainder unattended. Through tandem toll dialing, any toll operator can reach any subscriber without assistance from a second operator.

de Network Set Your Postwar Blueprint

How long-range planning pays is shown by the experience of the Lee Telephone Company in equipping this network for Strowger Automatic operation.

Fifteen years ago, Automatic Electric engineers worked with the telephone company in planning conversion of these exchanges to automatic—to provide highest overall efficiency at lowest operating cost. Each succeeding installation of dial equipment was engineered to that basic plan.

Today, all ten exchanges are automatic, and the network provides for a complete system of toll dialing by which any operator can reach any subscriber without assistance. Service standards are highest in the company's history, and both toll and local business have shown marked increase.

For the present, installations like these must await the release of materials and manpower, but it is not too early to plan *your* postwar needs. Our engineers will be glad to show how you can profit by engineering on a long range basis. Just talk with our representative—or write us direct.

AUTOMATIC ELECTRIC

Originators and Developers of Strowger Step-by-Step Machine Switching Automatic Dial Systems
Makers of Telephone, Signaling and Communication Apparatus . . . Electrical Engineers, Designers and Consultants

Distributors in U. S. and Possessions

AUTOMATIC ELECTRIC SALES CORPORATION, 1033 W. Van Buren St., Chicago 7, U. S. A.
Export Distributors: INTERNATIONAL AUTOMATIC ELECTRIC CORPORATION

capable of viewing only three or four lines at a time. This obviously would reduce the possibilities of advertising material.

"No," said the directory man, "I don't think we are going to have much call or need for a microfilm directory that will supplant the printing job. Though, as I said before, we have studied the thing from every angle and are quite ready, willing and able to make directories that way if that is what is wanted. I just don't think that is going to be the case. But the real story, as I see it, is the possibilities of the future printed directory—possibilities which have been largely inspired by the threat of microfilm competition."

Then the directory man went on to paint the future of the printed directory and a beautiful job it was. As far as factual information is concerned, it shaped up something like a municipal edition of a World Almanac, compressed into relatively few but very interesting pages. The public relations department of a number of telephone companies went in for this sort of thing in a mild way before the war, including such information as when the city was founded, the size of population, list of principal industries, and so forth.

But the glamorous, color printed telephone directory of the future will tell all these things and more. Here are just a few features: Aerial maps of the city, information on the opening and closing hours of libraries, museums, and description of principal points of interest in the service area. A list of churches with directions for reaching them, and hours for various divine services, masses, etc.

In short, almost anything that a stranger or regular inhabitant might want to know in a hurry in the way of municipal information, from the price of the dog tax to the date when city real estate taxes are due. City sporting data, including such information as when the home town ball team won the local league pennant, would be included. There would be a list of the mayor and all the political big shots and little shots.

(Courtesy, REGISTER & TRIBUNE SYNDICATE)

"Use another telephone, nurse, we have a patient in there."

The better part of this information could be kept in standing type, with little change in each new issue. Merely the extra paper and press work would be required. The idea behind these startling innovations would be to make the directory an established institution or factual authority — not merely a nondescript collection of scattered facts and statistics which might or might not be consulted. If the practice became sufficiently well established, the telephone directory would be as indispensable as a dictionary. It would be the court of last appeal for many a domestic argument or barroom bet.

The directory man finished his discussion modestly enough: "Frankly, I don't know how much, if any, of these extra features the trade wants, but if that is the local answer to making the directory more useful, we could do the job in technicolor with a pin-up girl on the cover of every issue."

Well, your correspondent doesn't profess to know either just how much there is to this "almanac threat." But the possibilities are certainly revolutionary. You usually think of a telephone book as something that is kept near a telephone. In years to come we might find duplicate editions in the library.

›› Dokey, a carrier pigeon who is president of Carrier Pigeons, Inc., Boston, Mass., announced that his corporation will soon merge with the New England Telephone & Telegraph Co. to relieve the communications system around New England seashores where 4,000 hopefuls are angling for temporary instruments.

According to their recent unionization, no pigeon may take home a message weighing more than itself. No liquor is to be carried by pigeon, and above all, there is to be no cutting in on the stork's line!

Before and since Pearl Harbor, York-Hoover has built many types of body equipment for our armed forces. Some of these are illustrated above.

Indeed, one of the most widely known of all war designs, the famous jeep body, had a major part of its origin in York-Hoover shops. In August 1940, before the jeep was put into mass production, York-Hoover helped design and manufactured completely the 70 original jeep bodies.

Not only has the designing and building of these varied bodies for so exacting a buyer as Uncle Sam added appreciably to York-Hoover's already broad experience and "know-how," but WAR BORN METHODS will also reflect their improvements in York-Hoover bodies of the future.

An example: by careful study of the roof cross curve in one body unit, we were able to develop a new curve of equal specification that saved 70% of the man hours formerly required.

An improved method of fabricating a steel rib rail saved approximately 40% in man hours—and so on down a large list of individual parts and assemblies.

All of these improvements are being digested and many of them are waiting to be applied to peacetime manufacturing.

We will be glad to start helping you *now* to make a reality of your post-war requirements for new body equipment.

YORK-HOOVER CORPORATION

BODY DIVISION

YORK, PENNSYLVANIA

by MAYME WORKMAN
traffic supervisor
the Illinois Telephone Association
and traffic editor

THE OPERATOR'S CORNER

"I WANT to help!" This plea has been voiced by pioneer switchboard operators who are ready to return to work to help the war effort.

A convention of "operators of the '90's" met in Cincinnati, Ohio, recently, and these women, all former employes of the old Cincinnati telephone exchange, agreed they would like to get back to their switchboards again.

"I want to help!" typifies the wartime spirit of a small army of former telephone operators in central offices all over the United States who have returned to war busy switchboards because they wanted to help. These veteran operators are working side by side with the regular staff and with the groups of high school students who are giving their leisure time to help meet wartime demands in central offices. The job they are doing is contributing directly to the solution of the problem of maintaining a sufficient force to handle the war loads on congested lines.

In visiting an Illinois exchange recently, the writer was impressed with the manner in which the calls were being handled. On a previous visit, six months earlier, the atmosphere was tense, the chief operator was depressed, and traffic seemed to be lagging. In commenting on the improved condition, the chief operator stated, "I have three of my old operators back, and are they a big help! My new girls have become more experienced and that helps, too!"

Chief operators tell me veteran operators who are coming back to work to help the war effort are a good influence for the younger girls. As former operators, they are aware of the importance of telephone communication in time of emergencies. They have not lost their appreciation of the spirit of service which prompted them to volunteer for duty. Many veteran operators have another important reason for volunteering their services: A son in the service. They want to do their part in the war effort by doing a good job in an essential industry. Like all mothers throughout the nation, they desire to get the "big job" done as soon as possible so their boys can come back home again, and we can resume a normal way of life. Mothers and daughters frequently work side by side in central offices. This is an inspiring sight. "Mother and daughter working for victory."

Veteran operators are happy to be back at the switchboard. They manage to take care of their household duties as well as their work in the central office. Some feel strange at first, seeing so many new faces and then they catch a glimpse of another old-timer in the rest room. When this happens, you hear something like this: "Why, Mary Smith! When did you come back? I never expected to see you here!"

And Mary will probably say, "Why not? With my three sons in the service, I have plenty of time on my hands. I find I am much happier when I'm busy and don't have much time to think. Why did you come back, Anne?"

"I heard they needed operators. I wanted to do something worthwhile to help the war effort, so here I am. You know, Mary, I never did forget the time we worked together. How long has it been?—twenty years? They were happy days. And do you know there have been times since I have been away that I longed to get the feel of the plugs and cords again."

"Me, too, Anne. Gee, it's great to be back!"

Veterans returning to take their places at the switchboard find the same feeling of friendliness, cooperation,

CORRECTION

The answer to traffic question No. 5, "How should a ticket be handled that is collect to a party in one town and the called party wishes the call charged to a party in another town?" appearing on page 37 of the April 1 issue of TELEPHONY should have read:

Enter the number of the third station in the called "Tel. No." space, drawing a line through any number already there. Enter the name of the town in which the third station is located in the called "Place" space, drawing a line through the name of the called place. Enter "wt (called place) (no. of called station)" in the "Special Instruction" space, followed by the name of the called place in parenthesis to indicate the station at which the request originated.

Obtain the name of the person making the request unless you already have this information and, on a station-to-station call, enter it in the space for reports in order not to change the classification of the call.

If the charge is accepted, enter "O.K." following the number in the called "Tel. No." space.

If the charge is not accepted, enter "chg not accepted (time)" in the space for reports.

teamwork and pride in the work still prevails. The "Spirit of Service" is present today just as it was in the past.

Welcome to our ranks, veterans. You are making an important contribution to the war effort. We are glad you want to help.

Questions from Illinois Operators

(1) When a ticket is passed to the TTC because it is collect to a prepay and the call is later completed to a number which is not a prepay, who times the ticket?

(2) When passing a long distance call to our toll center, how long must a subscriber wait for a report on his call?

(3) Should a chief operator spend regular time on the board, say 15 to 20 minutes to an hour daily, to keep in practice?

(4) How much information can be secured for a subscriber not wishing to place a call but merely wishing an address or telephone number of someone in a distant town?

(5) On conference calls where regular conference tickets are not provided, are the names of all the called places entered on a regular "OUT" ticket?

The answers to these traffic questions are presented on page 42.

V V

Verbal Sabotage Follows Invasion of Europe

It recently was reported that verbal sabotage has begun since the invasion of Europe, predominantly in the Columbus (Ohio) area. The saboteurs are telephone callers who claim to be associated with the Red Cross, calling to inform the families of injuries or illness of their men in service.

Columbus newspapers warned that any information concerning casualties is issued only by the War Department at Washington and is conveyed to the next of kin by personally-delivered telegrams. Families were also warned to check with the local Red Cross chapter in the event they received such a mysterious telephone call.

V V

Ex-Instructress Promoted

PETTY OFFICER CHARLOTTE ELEANOR RAMSEY, WAVES, formerly an instructress for the Associated Telephone Co., Ltd., in Santa Monica, Calif., recently reported for duty at Corpus Christi, Tex. She has the rating of specialist third class having received her petty officer's stripe shortly before going to Corpus Christi.

STROMBERG-CARLSON
RECOMMENDS—

PREVENT
Early Cable Discard by Eliminating
• SHEATH CUTTING
• CREEPING and
• RUSTING
With
Reliable
ZINC CABLE HANGERS

Prolong the life of your cables at least for the duration—rehang them, although they may be badly worn, with Reliable Zinc Cable Hangers. All cable movement that results in wear and sheath cutting is eliminated. Added protection against lightning is provided—cable bound and solidly grounded to the messenger. Reliable Zinc Cable Hangers are strong, economical and easily installed. Request complete information and prices.

The four simple steps above clearly illustrate the simplicity of a Reliable Zinc Cable installation.

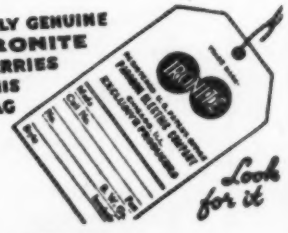
★

"RELIABLE" IDENTIFIES THE QUALITY

GENUINE
IRONITE
DROP WIRE

A recognized leader for forty years, because of its strength — long life — conductivity and easy workability.

ONLY GENUINE IRONITE CARRIES THIS TAG



STROMBERG-CARLSON
PROGRESS IN TELEPHONY

STROMBERG-CARLSON COMPANY
Factory and General Offices: Rochester 3, New York, U. S. A.
Branch Offices: Chicago, Kansas City, San Francisco, Toronto

THE PLANT MAN'S NOTEBOOK

BY RAY BLAIN • TECHNICAL EDITOR

WE HAVE a telephone directory which was sent to us by L. H. Snyder, president, Mijo Telephone Co., Spring Hill, Kan. This directory covers the company's Spring Hill and Stilwell exchanges and includes the subscribers of the Hillsdale and Bucyrus telephone companies. The first inside page gives some very good information on how to use the telephone. The directory is printed on a good grade of heavy stock paper, having long wearing qualities. The type is of a size to assure easy reading and the printing is clear and distinct. It is an excellent directory and should be valuable to Mr. Snyder's company.

* * *

Due to war shortages and scarcity of material, pole lines are depreciating in many areas at a rapid rate. It is doubtful if many of these lines will go through another winter without causing trouble unless preventive measures are taken during the present summer. Poles should be checked carefully. The best method we know is to rock them with a pike pole placed near the top. If a pole breaks under this treatment either reset, replace or stub. Poles are extremely scarce, so every effort should be made to reuse the old pole if at all possible (see illustrations below).

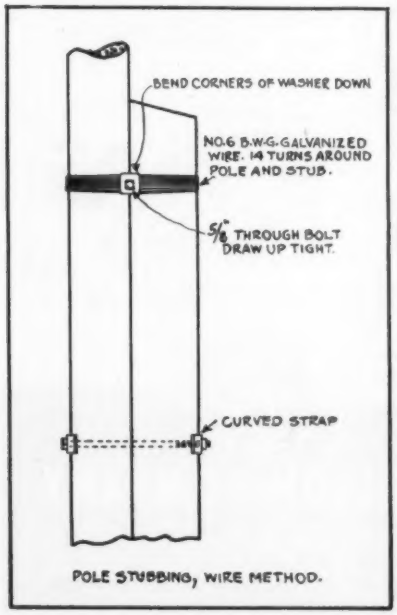
* * *

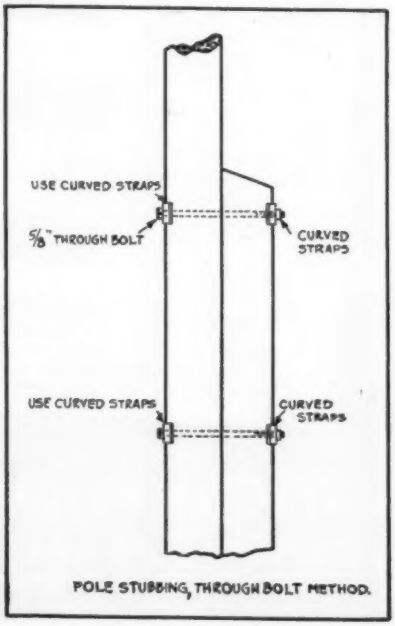
Recently we had the pleasure of examining a sample of wire insulated with one of the new plastics. This insulation is thin and has the appearance of enamel on bare wire. In fact, at first glance, one would assume it is enameled insulated wire of the type commonly used to wind coils. While the experiments on this new wire have not been completed, they have progressed to a point that indicates future success.

It is claimed that perhaps twisted pair drop wire can be made with this insulation which will be strong, economical and of extremely long-life. No doubt it also could be used single for tree wire on toll lines. Likewise, it would prove ideal for rural line use and might provide high insulation even though broken insulators are neglected and trees, not trimmed. So far this new type of insulation has only been applied to copper and copper steel wire. It is believed, however, that it could be used with equal success on steel wire if required.

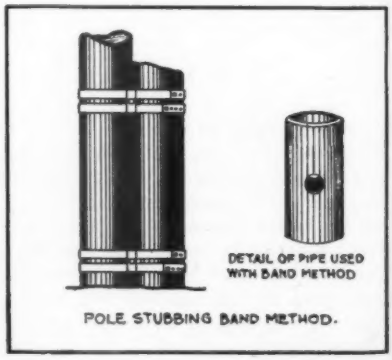
* * *

Received a letter from Endsley Jones, division superintendent, Western Light & Telephone Co., Kingfisher, Okla. He agrees with the statement made on this page in the April 22 issue that the telephone industry should adopt the "Phil-


BEND CORNERS OF WASHER DOWN
NO.6 B.W.G. GALVANIZED WIRE. 14 TURNS AROUND POLE AND STUB.
5/8" THROUGH BOLT DRAW UP TIGHT.
CURVED STRAP
POLE STUBBING, WIRE METHOD.



POLE STUBBING, THROUGH BOLT METHOD.



POLE STUBBING BAND METHOD.

lips" screws, but states emphatically that telephone men in Oklahoma do not drive screws. It is further claimed by Mr. Jones that telephone men in Oklahoma always make a starting hole for screws by the use of an ice pick or a Yankee drill, then drive the screw home with a good screwdriver. This is an excellent idea and we have heard on good authority that the only telephone man ever to be refused admission to Heaven was one who drove a screw with a hammer.

The writer will never forget Kingfisher because he accompanied his father to that frontier town in a covered wagon to visit the land office to file on a homestead. It might be added also that at that time there were no telephones in Kingfisher, although we did think of taking out a franchise.

* * *

The Accident Prevention Organization of the Western Union plant department, completed 21 years of service on January 1, 1944. During this time, it is claimed that this organization has:

Saved the lives of 105 workmen, an average of five in each of the 21 years.

Prevented 8,123 lost-time accidents which would have resulted in the equivalent of a gang of 13.1 men going the entire 21 years.

Prevented 3,210 accidents which would not have involved loss of time.

The Western Union is to be congratulated for its marvelous record.

* * *

Substantial economies in time, manpower and money have been effected through the recent standardization of radio tubes used by the Army, Navy and Canadian armed services, according to reports received in the Office of the Chief Signal Officer. Among the more important results of the standardization have been easier interchangeability of tubes, common stockpiles, elimination of dual inspections at the manufacturers' plants, and use of standard nomenclature.

The pooling of requirements has permitted the Army and Navy to improve the quality of tubes. The manufacturer no longer is obliged to make the same tube meet two slightly different specifications with the result that he can now concentrate on making that tube better. Already reports have been received from fighting fronts telling of the superior characteristics and quality of the new, standardized models.

Just hold this protector in your hands, and you get the feel of real protection. The massive porcelain block provides large and sturdy barriers between all terminals, to prevent current leakage over the surface of the porcelain. Discharge blocks are set into a deep well in the center of the block, and covered with a screw-on cap of molded plastic. It's an arrangement that provides maximum separation between current-carrying parts—hence, greatest protection.

USE IT INDOORS OR OUTDOORS

For indoor installations, the Type 20 Protector is supplied without cover. For outdoor use, it is provided with a big cover, built and finished to battle the weather for many years. (Covers can also be supplied separately, for quick, on-the-job conversion from indoor to outdoor mounting.)

LISTED BY UNDERWRITERS

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GEN. HARRY C. INGLES TOURS PACIFIC BATTLE AREA

ON THE word of three commanders in the Pacific—Admiral Nimitz, Admiral Halsey and General MacArthur — operations have never been delayed because of insufficient communication equipment, according to a statement made by Maj. Gen. Harry C. Ingles to newsmen at a recent press conference upon his return from a five-week tour through the Pacific area.

"So far as the Pacific area is concerned," he said, "and that was one thing I went into from A to Z, there is no critical shortage of signal equipment."

Disclaiming responsibility as an expert on operations in the Pacific and pointing out that his mission was to "check on signal equipment and supplies, and communications systems," General Ingles emphasized communications problems in that theater by citing the vast distances encountered.

"I think that you will be most impressed with—as I was impressed—the enormous distances with which those people have to contend. A thousand miles is normal. This, of course, throws a great burden on the communications system.

"Our signal communications system for years—and there is nothing to indicate that it is wrong—was based on the principle that the primary means of communication is wire.

"We have regarded radio as an auxiliary means of communication—very valuable, but auxiliary to wire. Now, when you get into the Pacific area, radio becomes not only the primary means of communication, but the *only* means. Therefore, there is a great burden on the radio system and it requires the installation of a much more extensive radio net than would be necessary in locations where fighting is confined to one land area."

Because the Pacific Theater is predominantly a water area, General Ingles stressed the necessity for close working cooperation between the services. That this is an established procedure was evident, he said.

"The relationship between the Army and Navy over there is splendid," he pointed out. "Signal centers are combined in every case. Navy facilities are manned by Army men and Army channels, by sailors. The whole relationship between the Army and Navy is excellent. The Army throughout the Central Pacific has the highest regard for Admiral Nimitz; and in the South Pacific, you will find like regard for Admiral Halsey.

MAJ. GEN. H. C. INGLES

"Another thing which impressed me, and has impressed everyone else, is the ingenuity displayed by Signal Corps soldiers. There is scarcely any situation they encounter which can be done according to the books. They are confronted with one unusual situation after another, and they display an enormous amount of energy and ingenuity, and also a good deal of humor, in meeting these problems.

"For example, at one place in New Guinea I visited the power plant which furnishes power for the radio stations. Most of the men in that particular area come from Texas and Oklahoma, and over the shack where the generators are housed they have a big sign which reads: 'Texas-Oklahoma Power & Light Co.'

"At another place farther up in New Guinea is an airfield. There they have a little shack and a sign, as big as the shack itself, above, which reads: 'Pentagon Building.'

"There was a young lieutenant up on Bougainville who with his gang had put up low telephone poles with crossarms that were notched. He just laid the wire in the notches and tied it in with a basket-weave tie. It looks just like a telephone wire along a highway, except that the crossarms have no insulators. I had never seen field wire put up that way before.

"That is just one example. There are

many others. I have been in the Signal Corps for 25 years and I thought I had seen all the methods, but I saw some that I had never seen before—some that individual sergeants and enlisted men had worked out. No matter what system they use, if the construction stands and the wire does not break down, we let them go ahead with their own methods. The men will exercise a great deal more care in maintaining something that they worked out themselves than if they were forced to learn from a book.

"Signal Corps soldiers are combat soldiers, too. They have done a lot of fighting already, and are well trained in the use of their weapons. Actually they are engaged in combat to a much greater extent than in the last war.

"As a matter of fact, this applies to all service troops. There was one incident, which you may recall, during the Battle of Milne Bay. When the Japs landed and were driving the Australians back, a battalion of engineers building an airfield ran their bulldozers off into the woods, got their combat equipment, machine guns and rifles, and took positions on the far side of a clearing they had already made.

"The Japs very foolishly came right on across the clearing and it was just slaughter. The battalion of engineers broke up the Japanese attack entirely. As a matter of fact, the engineers dug a huge grave, ran bulldozers over the clearing and buried the enemy dead, so the airfield is made on a clearing over the bodies of more than 500 Japs."

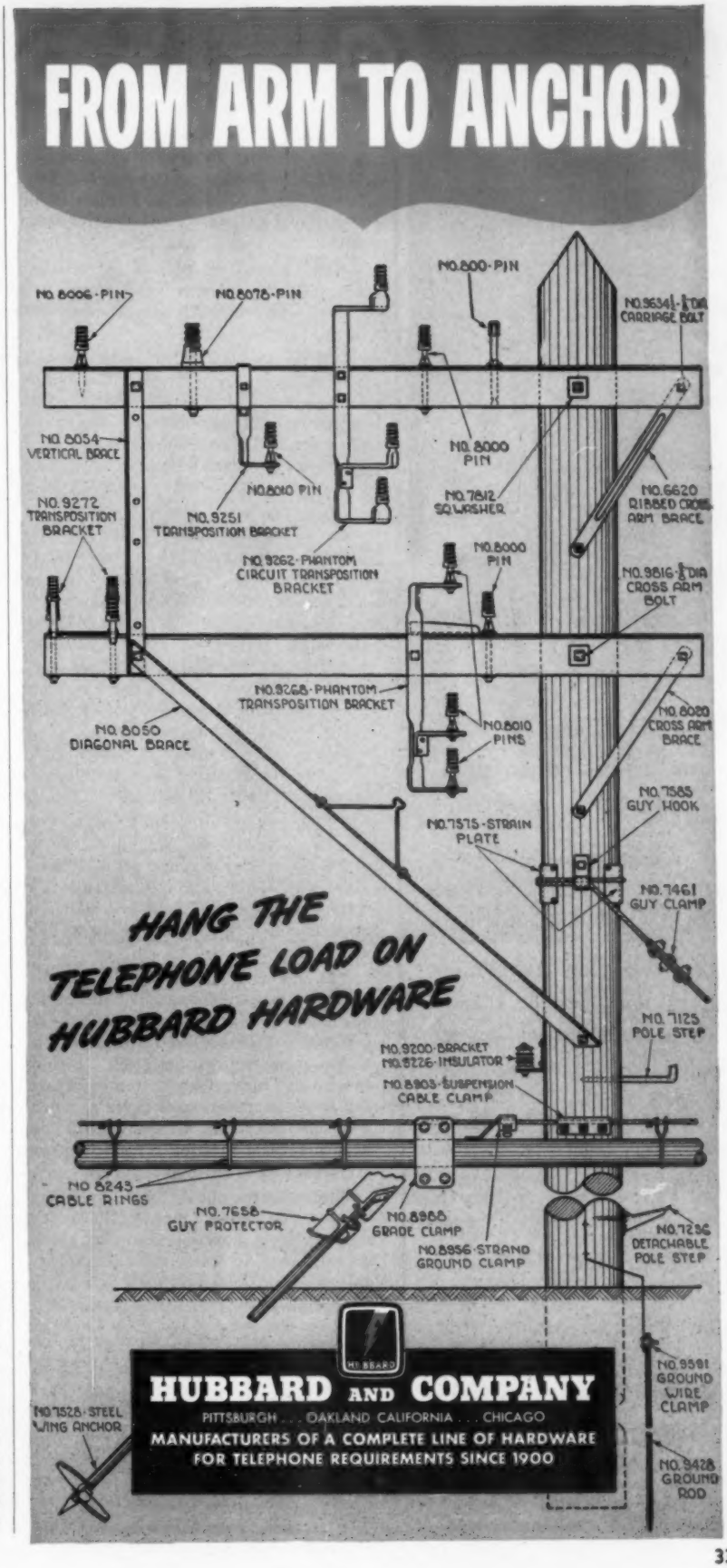
Asked about the amount and quality of enemy equipment we are getting, and the uses to which it is put, General Ingles told of a Jap radio tower that survived our bombing and artillery attack on one of the Pacific atolls. It was put into use by American signalmen as soon as they had established themselves.

In answer to a question about the value of such equipment, he said: "If the tower had not been there, we would have put up 90-foot poles."

After mentioning the height of the tower—125 feet—General Ingles was asked whether it compared favorably with some of our bigger stations in the Pacific.

"Well, yes, it does," he answered. "Here is the situation in radio: We do not use those big towers any more—because of improvements in radio science. We can do the same thing with 70- or 90-foot telephone poles.

"There is an interesting little story illustrating the imitativeness of the Japanese," the general continued. "We were very much surprised to find among the captured equipment radio tubes with the R.C.A. trademark. In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our laboratories it was found that they were not made by R.C.A. at all. They were copies of R.C.A. tubes, and so well had the Japs duplicated them that they had included the trademark.

"Much of the Japanese equipment is a copy of German apparatus. Some of it is pretty good. Their radios and field telephones are fine, and their field switchboard is sturdy and heavier than ours."

The general was asked the relative use of radio and wire after troops are ashore, and whether radio worked well in the jungle.

"Radio does not work nearly so well in the jungle," he replied. "The dampening effect of jungle growth and trees on the radio waves cuts down the range of a set. The communications troops get to work laying wire as soon as they get on shore."

"How far can you talk in the jungle with a walkie-talkie — about four miles?" he was asked.

"Yes, we figure about four or five miles. We are conservative about such statements. If we say five miles and the soldier gets ten, he never objects; but if we say ten and he gets only five, that is bad. If there is an extra margin of two or three miles in a walkie-talkie set it would easily give service over a distance of five miles. It depends on how wet the weather is in the jungle on the day the set is being used.

"The jungles in the Pacific are beastly. I have seen jungles in South and Central America, and in the Philippines, but those in the Pacific are the worst I ever saw. Some of the trees grow 250 feet high, making operations very difficult.

"At the same time, jungle climate is rough on radio equipment. Plans must be made for a considerable loss in equipment through deterioration. It is bad country for dry batteries. In that constantly high, humid temperature, dry batteries deteriorate rapidly, much more so than in the United States. To maintain them in good condition, they are kept in cold storage.

"Refrigerator boxes are built by troops. The outer space is filled with sawdust from portable sawmills which we send over to them, and then an ordinary commercial refrigerator unit is installed. Those refrigerator boxes give good service and the batteries are kept in optimum condition until they are issued to troops. We are now trying to develop special batteries for that particular climate, and thus far have had some success.

"Radio sets are specially treated against moisture and fungus. There are several types of fungus growths in tropical countries which ruin contacts in a surprisingly short time. Our chemists know of a fungus-resisting chemical which defers fungus growth for a long time.

"Waterproofing is important. A waterproof container fitted with rubber gaskets has been adopted. The antenna, for instance, comes out through a rubber collar, so that the set will operate in the rain. Of course, with heavy station equipment it is not necessary to do that. Such equipment is placed under some kind of a shelter which is erected before the equipment is installed.

"How is waterproofing applied? We waterproof it by spraying and brushing over all the separate leads and connections. This is done with a spray gun and in many cases with a brush. As long as the waterproofing is done effectively we allow a man to use the method he likes best. One mechanic may prefer to use a spray gun; another man uses a small brush.

Cameramen Doing Fine Job

"They [cameramen] are doing a fine job of getting good combat films. Some of these are made available to the public, and others are kept as historical records of war.

"Of course, they have a situation there which lends itself to photography. On the beach everything is visible. When you get on-shore-inland fighting, the remarkable thing is the emptiness of the modern battlefield. I have seen pictures that have come back from the Italian front, for example, that were obviously taken in the most advanced positions, yet all one can see is landscape. There is no action. A man in a foxhole sees nothing of the war, and if he looks out he sees nothing but the landscape. But in amphibious operations the front line is right there in view.

"All films that come back are immediately viewed by all branches of the Army. Certain sections are chosen for training purposes. For instance, a soldier is making a very serious error—maybe he was killed because of it—or a squad is advancing in just the method that they would like to train their men to advance. So we cut that section out and it is used in training.

"We also send films back to the theaters. They have a high morale value. The soldiers like to see operations that they themselves were engaged in.

"Of course, any of you who have been associated with the motion picture industry know that much footage is used to obtain suitable material.

"The best photography that I have seen so far is in a film entitled 'The Battle for New Britain,' which is ready for release in the United States now.

It covers the filming of operations at Arawe and Gloucester on the island of New Britain, and includes the preparatory stage, the loadings, the movement, and the landings on the beach. It is a very frank picture, and in places it is extremely gruesome. We did not spare any punches."

V V

Long Distance Call Aids Fortress' Landing

How a telephone call saved the lives of a four-man test crew aboard a Flying Fortress was told recently by newspapers at Denver, Colo., where the big bombers undergo changes to fit them for the various theaters of war.

Everything went fine during the test until they were ready to land and discovered the landing gear would not lower. It was a precarious situation, because to make a belly landing with a Fortress one must first drop the ball turret on the underside, and neither the experienced test pilot nor the others aboard knew how this was done.

The pilot hadn't had a great deal of experience with bombers. He had been taking a course on how to make emergency landings in the big ships, but the part about dropping the turret wasn't due until his next lesson.

Contacting the Fortress modification center by radio, he told of his predicament and suggested that the Boeing Field Service *News* advance the publication date on the particular lesson he needed.

While the Fortress circled the field according to instructions, Army authorities telephoned Boeing officials at Seattle, Wash., got the information in a hurry and related it by radio to the plane. The crew thus learned how to unfasten the proper bolts, and the turret went sailing down. With that out of the way, the pilot negotiated what was termed a "remarkable" belly landing on Lowry Field (Colo.). None of the crew was injured.

V V

Perfect Army-Navy Accord

WAVE SEAMAN BERNICE STEVENSON, former employe of the New Jersey Bell Telephone Co., Hackensack, recently announced that her mother, MRS. HILDA E. STEVENSON, is a private in the WAC which, she says, makes for perfect Army-Navy accord.

V V

Affords Direct Wire Service

A Western Union printer was recently installed in the office of the Pendleton (Ind.) Telephone Co. affording direct wire telegraphic service.

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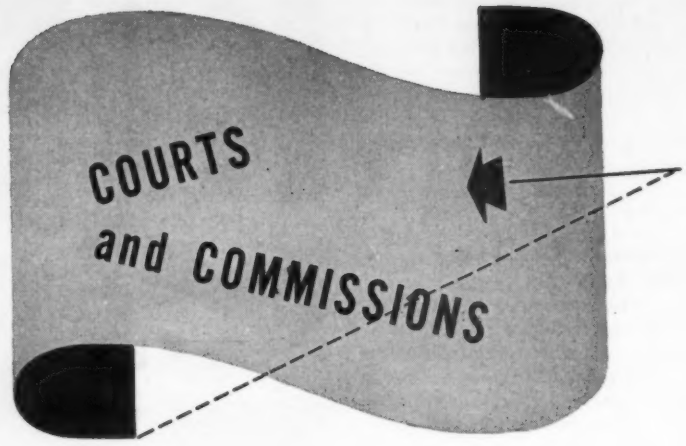

Memphis Assesses High Tax on Southern Bell

Reflecting the growing threat of increased municipal taxation confronting telephone companies, the city council of Memphis, Tenn., passed on first reading June 13 a franchise ordinance requiring the Southern Bell Telephone & Telegraph Co. to pay the city a four per cent gross receipts tax for 10 years and a five per cent tax for eight additional years.

The Memphis action is one of many recent indications that telephone companies and utilities may expect increasing demands from municipalities for more revenue. Municipalities throughout the country are planning some $4,500,000,000 of postwar capital improvements. Besides looking to Washington and state capitals for aid, municipalities will intensify their plea for new revenue sources of their own to augment property tax revenues.

Pressure by municipal officials for new sources of revenue has, of course, been in evidence for many years, but recently has been taking the form of action instead of proposals. Last year one of every 10 communities in the country with more than 10,000 population tapped new revenue sources or increased existing levies. Special levies against telephone companies and other utilities were prominent among these new local levies. The trend has been extending further this year and threatens to turn into a tornado when the time arrives to effectuate the grandiose postwar projects now being blueprinted.

Expected to attact attention as a possible model for other cities, the Memphis franchise ordinance, in addition to levying the gross receipts tax, calls for free telephone service of about $13,000 a year to the city government and continuation of payment of about $33,000 a year in pole rentals. The measure is expected to give the city approximately $200,000 a year, in addition to the company's real and personalty tax payments of approximately $125,000.

Introduction of the ordinance, which was slated to go into effect July 1 if accepted by the company, climaxed nearly six weeks of discussions between company, city and county officials. Telephone officials maintained strict silence throughout the discussions and Frank Flournoy, Memphis district manager, made no immediate public comment when the ordinance was announced.

Under terms of the ordinance, the company is to pay the four per cent tax "on all gross receipts accruing to its office or offices in Memphis of every kind and character, and from every source, without deductions, excepting only gross receipts from interstate toll business. (Interstate toll business shall not include tolls from business which both originate and terminate in this state.)"

The tax is to be paid semi-annually on or before February 15 and August 15, with semi-annual payments being based on gross receipts for the six-month periods, July 1—December 30, and January 1—June 30. First payment is due next February 15.

V V

Minnesota Commission Approves Increased Rates

The Winsted (Minn.) Telephone Co. was authorized, on June 12, to place in effect at its Winsted exchange as of July 1, the increased rates and charges recently applied for before the Minnesota Railroad & Warehouse Commission.

The present and increased rates are: Individual line business from $2.25 to $2.75; individual line residence from

$1.75 to $2.00; multi-party rural from $1.75 to $2.00.

In addition to these rates there will be a charge of 50 cents a month additional for common battery service on business telephones, and 25 cents a month additional for common battery service on residence telephones.

Town rentals are billed monthly in advance with a discount of 25 cents per month if paid on or before the 10th day of the month in which service is rendered. Rural rentals are billed quarterly in advance with a discount of 25 cents per month if paid on or before the 25th day of the month in which service is rendered.

The Winsted company, a corporation, serves 128 urban and 86 rural stations. The book cost of property used in rendering service is $19,184. The proposed increase in rates was petitioned by more than 98 per cent of the subscribers.

V V

Nebraska Commission Approves Increase for Independent

The Pawnee (Neb.) Telephone Co. recently asked the Nebraska State Railway Commission to readjust rates on toll calls to adjoining towns to bring them into conformance with the standard rates for such service, complaint having been made by other companies stating the present rates were out of line.

From Pawnee City to Table Rock and from Pawnee City to Steinauer the station-to-station rate will be reduced from 15 cents to 10 cents; from Pawnee City to Burchard the person-to-person rate will be increased from 20 to 25 cents. The Lincoln Telephone & Telegraph Co. owns part of these lines. The commission promptly approved the request and directed the new rates apply at once.

V V

Wessells Named Engineer By California Commission

Announcement was made recently by Richard Sachse, president of the California Railroad Commission, that Walter B. Wessells has been named telephone and telegraph engineer of the commission's public utilities department to succeed Arthur B. Fry, retired.

Mr. Wessells has been an employe of the commission for the past 17 years, and during the past year has served as research engineer. For the time being he will carry out the work of the research division in addition to Mr. Fry's duties.

Mr. Wessells is a graduate in engineering of Johns Hopkins University. He has participated in numerous utility rate and service investigations. During

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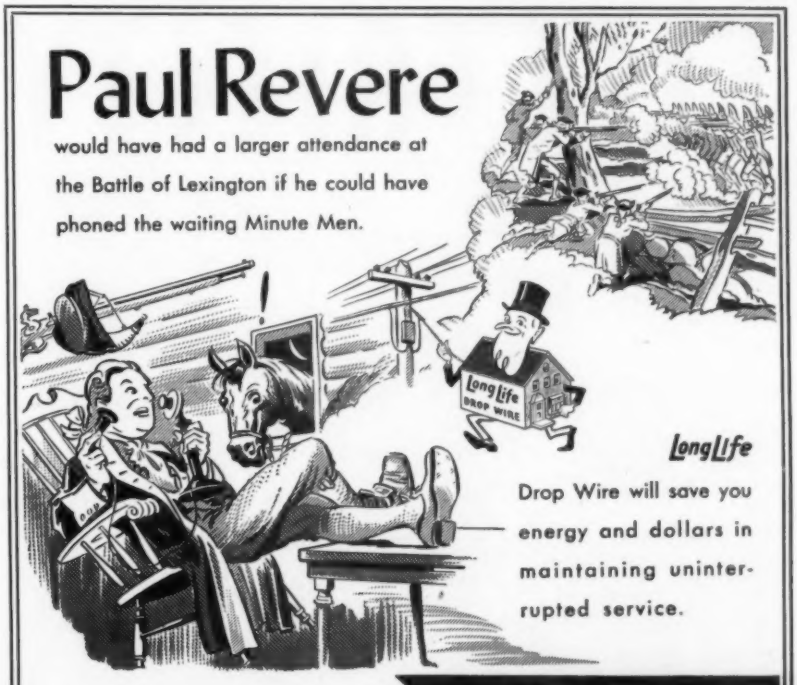

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the commission's investigation looking toward the introduction of message unit telephone service and automatic toll ticketing in the Los Angeles area, he had charge of the field work. During the past three years he participated in the development of nation-wide procedures in telephone regulatory technique, having attended several conferences and formal hearings at Washington, D. C., New York and Chicago.

In his new position he will be responsible for rate and service studies of the 84 telephone utilities operating in California. In addition, he will participate in the investigations of the operation of the combined Western Union-Postal Telegraph Co. now under way.

V V

Sues for Damages Because of Shock

A shock, allegedly suffered while she was using her telephone, resulted in Sadie M. Kaupp, Cincinnati, Ohio, filing suit in common pleas court June 14 against the Cincinnati Gas & Electric Co. and the Cincinnati & Suburban Bell Telephone Co., asking $2,500 damages.

The claimant says she was using her telephone on June 17, 1942, when wires belonging to the gas firm fell across telephone lines, causing electricity to be transmitted to her telephone. Her injuries, she asserted, included partial deafness. Negligence on the part of both defendents was charged.

V V

Says Telephone Shocked Husband; Asks $100,000

Suit for $100,000 against the Michigan Bell Telephone Co. was filed in federal court June 13 by Mrs. Mary Barry, Los Angeles, who said her husband, Louis L., suffered brain injuries which caused him to be declared a mental incompetent while using a public telephone in a Mt. Clemens (Mich.) cafe on June 14, 1941.

The suit alleges that Mr. Barry suffered a shock which also impaired his hearing and hurled him 10 feet. Mrs. Barry, suing as administrator of her husband's estate, said that Mr. Barry was declared a mental incompetent by a Los Angeles court on May 1.

V V

Sues for Subway Damage

Suit for $550,000 damages was filed in Circuit Court in Chicago, Ill., June 6, by the Illinois Bell Telephone Co. against the city for loss allegedly suffered by the company during construction of the subway. The complaint charged that telephone company structures and appliances were damaged.

V V

Minnesota Company Gets Increase in Rates

The Cannon Falls (Minn.) Telephone Co. was authorized on June 12 by the Minnesota Railroad & Warehouse Commission to put into effect at its Cannon Falls exchange the proposed rates and charges applied for, which are to become effective upon the first billing date following June 30.

The present and proposed rates are as follows:

Class of Service	Present Rates	Proposed Rates
Individual Line Business	$2.75 (a)	$3.25 (a)
2-Party Line Business	2.25 (a)	2.75 (a)
Individual Line Residence	1.75 (a)	2.25 (a)
2-Party Line Residence	1.50 (a)	1.75 (a)
4-Party Line Residence	1.25 (a)	1.50 (a)
Rural Stations Owned, Metallic	1.50 (a)	1.75 (a)
Special Service to Sanitorium	3.25 (a)	3.75 (a)
Private Branch Exchange Stations-PBX	.50	.50
Extension Stations, Business	.50	.75
Extension Stations, Residence	.50	.50
Extension Bells ..	.25	.25

(a) A discount of 25 cents per month to be allowed on all local gross rates if paid on or before the 10th day of the month in which service is rendered. Rural rates to be billed quarterly in advance with a discount of 75 cents if paid on or before the 10th day of the first month of the quarter, 50 cents if paid on or before the 10th day of the second month of the quarter, and 25 cents if paid on or before the 10th day of the third month of the quarter for which service is billed.

In addition to the above rates there will be a charge of 25 cents per month additional for handsets in town, also 25 cents per month additional for desk sets and 50 cents per month additional for hand sets on rural lines, temporary disconnections at one-half regular rate for any class of service.

The Cannon Falls company is a corporation serving approximately 414 local and 375 rural stations. The value of the property used in rendering telephone service at this exchange is $70,000.

V V

Commission Approves Sale

The Minnesota Railroad & Warehouse Commission on June 12 approved

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the sale of the Argyle (Minn.) Telephone Co. to V. L. Bradley by Edith Robertson, owner and operator.

V V

Summary of Commission Rulings and Hearings

Federal Communications Commission

June 13: Granted authority to Elton H. Dillon to hold the position of auditor for the Pennsylvania Telephone Corp. and Ohio Associated Telephone Co.

June 13: Granted authority to Harry J. Huether, Jr., to hold positions as vice president and director of Ohio Associated Telephone Co. and director of Pennsylvania Telephone Corp.

June 13: Granted authority to H. R. Maddox to hold positions as vice president, secretary and treasurer of The Chesapeake & Potomac Telephone Co., The Chesapeake & Potomac Telephone Co. of Baltimore City, The Chesapeake & Potomac Telephone Co. of Virginia and The Chesapeake & Potomac Telephone Co. of West Virginia.

Illinois Commerce Commission

June 20: Hearing on the proposed increase in rates for telephone service in Wataga and community as stated in rate schedule ICC No. 1 of the Wataga Mutual Telephone Co.

Kansas State Corporation Commission

May 29: Hearing set for July 10 on application of the Grainfield Telephone Co. for authority to make certain rate changes for telephone service at Grainfield and Gove, and to discontinue free service between these two points charging a flat rate of 10 cents per call.

June 13: Cases continued until June 27 on hearings against the Farmers Telephone Co., Menlo, and the Huron Telephone Co. for failure to file their annual reports for 1943.

June 13: Subpoena to be issued to the Netawaka Mutual Telephone Co., Peoples Telephone Co., Bentley, and the Vesper Telephone Co. for failure to file their 1943 annual reports.

June 13: Cases dismissed against the Windom Rural Telephone Co., Skiddy Mutual Telephone Co., Dennis Telephone Co., Castleton Telephone Co. and Danville Rural Telephone Co. for failure to file their annual reports for 1943.

June 13: Cases set aside against the Belmont Telephone Exchange, Southern Kansas Telephone Co., Burden, and Belpre Telephone Co. for failure to file their 1943 annual reports.

May 13: Ready for commission's action on Southwestern Bell Telephone Co.'s case regarding filing exchange area maps for Baileyville, Clay Center, Frankfort, Sabetha and Topeka.

Public Service Commission of Wisconsin

June 22: Hearing of John C. Larson vs. Farmers Independent Telephone Co., Grantsburg.

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Technical information regarding all Teletalk models, their application and installation, can be secured by referring to Sweet's Architectural Catalog, by conferring with any Graybar house, or by writing to us.

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TELEPHONE & SUPPLY CO.
COLUMBUS, OHIO

Colonel Kraege Returns For Short Visit

Lt. Col. Carl A. Kraege, president of the McKrae Telephone Co., Burlington, Kan., is in this country on a 30-day leave following the completion of a special courier mission in England. Prior to his assignment there, Colonel Kraege was in charge of the Allied Military Government in the provinces of Naples, Salerno, Benuvento and Abillino, before moving to the Fifth Army front. He took part in two battles—Sicily and Salerno, receiving leg wounds at Salerno beach.

He has received three decorations in addition to the Purple Heart. They are the Italian Distinguished Service Cross, the commandatory of the Order of the Crown, and the Grand Cross of the Order of Malta. The former two decorations are Italian, while the latter is British.

V V

L. D. Densmore Promoted To Full Colonel

L. D. Densmore, former general commercial superintendent of the Central Electric & Telephone Co., Sioux Falls, S. D., on May 17 was promoted from lieutenant colonel to colonel.

Colonel Densmore is on duty at the Italian front as assistant to the deputy chief commissioner of the Allied Control Commission.

V V

L. E. Claypoole Resigns from Peoples Telephone Corp.

L. E. Claypoole has resigned his position as engineer of plant equipment of the Peoples Telephone Corp., Butler, Pa., to accept the position of general superintendent of the Illinois Central Telephone Co., with headquarters at Clinton. He assumed his new duties on June 15.

Mr. Claypoole, who has been with the Peoples company for six and one-half years, is a native of Oklahoma and spent several years working in the oil fields in that state. For a brief span of years, he was engaged in constructional steel engineering work and highway construction.

From 1933 to 1937 he studied communications and electrical engineering at Bucknell and Ohio State Universities. Since 1940, he has been actively engaged in graduate work at the University of Pittsburgh in the field of ultra-high frequencies and micro-wave transmission. He holds the degree of bachelor of science in electrical engineering and the professional degree of electrical engineer.

In addition to the above formal education in electrical engineering, Mr. Claypoole has had executive training in corporation accounting under the auspices of the International Accountants Society. He is registered as a professional engineer in Pennsylvania and is a member of the American Association for the Advancement of Science, the American Institute of Electrical Engineers, Institute of Radio Engineers, Pennsylvania Society of Professional Engineers, National Association of Professional Engineers and the International Accountants Society.

L. E. CLAYPOOLE

V V

DeWitt Talmage Honored In Tennessee

The Institute of Radio Engineers has announced the election of T. DeWitt Talmage, well-known telephone engineer of the Tennessee Valley Authority, to membership in that international organization in recognition of his work in applying carrier-current and radio principles to telephone service.

Readers of TELEPHONY will recall Mr. Talmage's numerous outstanding contributions to this magazine on telephone engineering and management subjects which were written while he was transmission engineer of the Illinois Telephone Association. One of these papers, based on the results of inspecting hundreds of exchanges in Illinois, was entitled: "A Simple Service Survey for Magneto Plants," and was awarded first prize in TELEPHONY's article contest of 1930. Other phases of telephone service studies were leading numbers on the programs of various association conventions for many years and were given wide-spread distribution through the Illinois Telephone Handbook of which Mr. Talmage was editor-in-chief.

Three of the best received articles

T. DEWITT TALMAGE

in a series of commercial practices appeared in TELEPHONY of August 5 and September 9, 1933, and February 17, 1934, entitled respectively: "Build Your House Upon Rock;" "Scrapping Customs that Cramp Profits;" and "Greater Telephone Usage—More Profit."

For the past 10 years Mr. Talmage has been active in Tennessee directing the rehabilitation and integration of the communication facilities required to operate the vast TVA program. A description of the extensive carrier telephone system used by the TVA appeared in several magazines in 1942. It was based on a technical report prepared by Mr. Talmage and presented to the American Institute of Electrical Engineers at New Orleans, La.

Mr. Talmage is a member of the Independent Pioneer Telephone Association, the American Institute of Electrical Engineers, the Lions Club of Chattanooga, B.P.O. Elks, and the Pi Kappa Alpha and Masonic fraternities. He has served with distinction on the carrier-current applications subcommittee of the AIEE as well as on several committees of the East Tennessee Section of the Institute. He has held various offices in the Lions Club and is well known throughout the south for staging of the famous "turtle derby" in Chattanooga for the benefit of the blind in the community. For the past 10 years 5,000 Tennesseans have looked forward each fall to witnessing the spectacle of hundreds of Tennessee turtles racing under the rules of the Ancient and Royal Association of Amalgamated Turtle Racing Clubs.

V V

U. S. A. Telephones

Half the telephones in the world are in the United States. Every 24 hours Americans hold 85 million conversations.

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McKinney Receives Certificate From Signal Corps

A personal certificate of appreciation "for patriotic services beyond the call of duty," was awarded on June 15 to Frank L. McKinney, secretary-treasurer of the Ohio Independent Telephone Association, by Maj. Gen. H. C. Ingles, Chief Signal Officer of the United States Army. The certificate was accompanied by a gold lapel button bearing the insignia of the Signal Corps.

A similar certificate of appreciation was awarded to the Ohio Independent Telephone Association on June 1.

V V

Illinois Bell Changes

Promotion of EVERETT B. WITZEMAN, manager of the Illinois Bell Telephone Co. in Springfield, to the position of Springfield district commercial manager, was announced recently by W. J. BAER, division commercial manager. Mr. Witzeman succeeds N. S. FULLER, who has been promoted to district commercial manager of the Oak Park district. GORDON R. TITUS, manager of the company's offices at Alton and Wood River, Ill., will succeed Mr. Witzeman as Springfield manager.

Answers to Traffic Questions on Page 29

(1) The OTC operator.

(2) Ordinarily, he should receive a report within ten minutes from the filing time.

(3) That depends upon the size of the office, existing conditions and many other factors. Generally speaking, chief operators would probably welcome the opportunity and many do work at the switchboard when their other duties permit them to do so.

(4) We are permitted to secure the telephone number of a subscriber at a distant point although the calling party may not wish to place a call.

If a customer gives an address name and asks for a telephone number and street address, we are permitted to secure and furnish this information.

However, if a customer gives only a telephone number and asks for the name, address, business, or other information concerning it, the operator should say, "I am sorry, we do not have that information."

During periods of abnormal traffic, the operator should explain the condition to the calling party and tell him she will call him the following day. The desired information should be obtained from the distant place during night hours when traffic has fallen off.

(5) A separate OUT ticket is written covering each number, or number and person called. "Conf" is entered in the "Special Instruction" space on each ticket.

An OUT ticket is used as a master ticket. "CONF" is printed in capitals in the "Special Instruction" space preceded by the number of supporting OUT tickets. For example, "5 CONF."

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Samuel Hubbard III Dies in California

Samuel Hubbard III, member of a famous pioneer family of California and director and member of the executive committee, Pacific Telephone & Telegraph Co., died June 13 at his home in Oakland, Calif., following a brief illness.

Mr. Hubbard was born on Rincon Hill, in San Francisco, on May 17, 1863. His father came to San Francisco in 1830 on a small sailing vessel, after an adventurous voyage around Cape Horn from Boston, and later became connected with the Pacific Mail Steamship Co. His mother was Sophia Hunt, member of a pioneer Oakland family.

Mr. Hubbard went to school in Oakland, and attended the University of California as a member of the class of 1886. After leaving college, he worked for a time as a surveyor in the Pacific Northwest. Later, after engaging with his father in the establishment of a brick business in Vallejo, he joined the Gold Rush to Alaska. It was during prospecting trips in the far North that he developed an enduring interest in archaeological research, which he pursued as a serious avocation. In Alaska he made a 75-mile trip with a dog sledge in the dead of winter in breaking trail through a region previously considered impassable.

On his return to the states, he became interested in several industries, among them The Pacific Telephone & Telegraph Co., of which he had been a director since 1919, and member of the executive Committee since 1920.

Mr. Hubbard shared an interest in telephony which traced back to 1876, when his uncle, Gardiner Green Hubbard of Boston, financed Alexander Graham Bell in the development of the telephone and later welcomed Mr. Bell as a son-in-law. In 1876 Samuel Hubbard II received from Gardiner the first two Bell telephone sets on the Pacific Coast.

Samuel Hubbard III married Josephine Wolfsberger of Black Heath, London, England, who survives him. Also surviving are two children, Samuel IV, an attorney in Oakland; a daughter, Mrs. David Hyde Chick, New York City; four grandchildren, and two brothers, Charles P. Hubbard, Orinda, Calif., and William B. Hubbard, Bellingham, Wash.

V V

Hold Annual Meeting

The 38th annual meeting of the Garden Valley Telephone Co., Erskine, Minn., was held recently with 52 delegates from 10 exchanges present. The highlight of the report of Thomas Vollom, general manager, was that the company is out of debt. Upon motion, it was decided to burn old notes in celebration of the event. Officers and directors were re-elected.

V V

Elected President

ARTHUR F. OLDHAM, public relations director for the Cincinnati & Suburban Bell Telephone Co., was elected president of the Mariemont Civic Association at a recent annual meeting.

Investigation of "Sneak" Telephone Launched

An investigation of the circumstances under which a plug-type telephone was installed and operated in the basement of the Sip & Bite Cafe of Gary, Ind., without his knowledge, was launched by Robert A. Barker, manager of the Gary exchange of the Illinois Bell Telephone Co.

The "sneak" instrument was discovered by Gary detectives when they raided the Sip & Bite restaurant and tavern, seizing a considerable quantity of horse betting paraphernalia and arresting the proprietor.

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IT TAKES EXPERIENCE . . . plus the proper tools and the right parts to rebuild or repair telephone equipment properly and economically. The plant personnel of the TELEPHONE REPAIR CO., Inc., are all experienced and skilled workmen. EIGHTEEN YEARS specializing in this type work is the reason this company is the leader in the field today.

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- **AUTOMATIC BATTERY CHARGERS:** for exchange batteries.

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CINCINNATI • OHIO

Former Telephone Employe Receives DFC Award

First Lieutenant Ralph S. Davison has been awarded the Distinguished Flying Cross for combat missions completed while stationed in England. In addition to the DFC, Lieutenant Davison holds the air medal and three oak leaf clusters.

Prior to his enlistment he was employed in the drafting department of the Illinois Bell Telephone Co. in Springfield.

V V

Four Oklahoma Independent Exchanges Sold

J. R. Butler has sold the telephone exchange at Stuart, Okla., to its former owner, J. C. McAnally. Mr. Butler had asked permission to close the exchange if he could not find a purchaser. The exchange has 15 business and 29 residence telephones.

Ray Noel, former owner of the Union City (Okla.) Telephone Exchange has purchased the exchanges at Foss and Butler, Okla. from John Robertson.

The Goltry (Okla.) Telephone Exchange has been purchased by Harley Adamson from J. K. Moore. This exchange has 235 telephones.

V V

District Manager Resigns

GEORGE DOBSON, district manager of the York (Neb.) exchange of the Lincoln Telephone & Telegraph Co., has tendered his resignation effective July 1. He has been with the Lincoln company for 15 years.

V V

Floods Damage Equipment

Heavy floods in the Missouri and Elkhorn river valleys in the last few weeks have caused considerable damage to a number of telephone exchanges and washed out many pole lines. The Northwestern Bell Telephone Co. was the heaviest loser, but a number of smaller companies also suffered.

V V

New York's Telephones

New York City, with nearly 1,900,000 telephones in service, has more than 7 per cent of the United States' total.

V V

Obituary

HENRY GREER BEAM, 58, vice president, the Mt. Vernon (Ohio) Telephone Co., died June 9. A graduate of Kenyon College and one of the founders of the U. S. Quarry Tile Co., Canton, Mr. Beam is survived by his widow, two children and a granddaughter.

ALL the strength and durability inherent in steel are combined—with definite economies—in *Crapo* Galvanized Steel Strand. Heavy, ductile, tightly-bonded zinc coatings, applied by the famous *Crapo* Galvanizing Process, provide lasting protection against corrosion.

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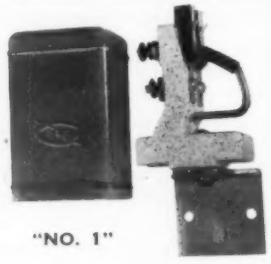

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Marines on Pacific Base Maintain Vital Communications

Marine Cpl. William K. Witta, Jr., Long Island, N. Y., is now chief operator of as strange a telephone office as ever emitted a "Number please?" according to a delayed story written on an advanced Pacific base by S/Sgt. Nolle T. Roberts, a Marine Corps combat correspondent.

Dug into the side of a hill, out of range of noisy jeeps and inquisitive passers-by, is a canvas-covered office containing two field telephone switchboards. Here 10 husky Marines, usually stripped to the waist, maintain a 24-hour a day watch with bass versions of "the voice with a smile."

Corporal Witta reports that their switchboard problems are largely the same as those of their feminine counterparts in the United States. They would be justified in resenting the comparison, however, for they double as linesmen, troubleshooters and installation men, having one of the most dangerous and difficult assignments in combat. In the Marshall Islands operation, they laid a line forward of advanced machine gun positions.

The enemy quickly learns to cut the lines and lie in ambush for the repairmen. Our own tanks and halftracks play havoc with the light combat lines which must, of course, be laid on the ground. The climbing necessary for overhead construction often means death in sniper-infested areas. Overcoming these hazards, however, is all part of a day's work for the corporal and his men.

V V

Rotarians Honor Bell Manager

At a recent meeting of the Laredo (Tex.) Rotary Club, Gordon Underwood, district manager of the Southwestern Bell Telephone Co., was presented with a gold button in honor of his 40 years of service with the telephone company in all sections of Texas. Division Commercial Superintendent Ben Smith of the Bell Company made the presentation. Mr. Underwood also was presented with commendatory letters from executives of the company and with a massive "birthday" cake. Mrs. Underwood was presented with flowers.

V V

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C. M. Christiansen Co., Phelps, Wis.—Northern White Cedar Poles, plain or butt treated. Quotations on request.

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MacGillis & Gibbs Company, Milwaukee, Wis.—Northern White and Western Red Cedar Poles. Plain or butt-treated. Immediate quotations on request.

T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles. Plain or butt-treated.

Pensacola Creosoting Company, Pensacola, Fla. — Creosoted Southern Pine Poles of Superior Long Leaf Quality.

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WANTED: Combination telephone man for locally owned Independent telephone company, 2,000 stations north central Indiana. Permanent position. Write Box No. 2078, c/o TELEPHONY.

WANTED: Starting new crews — need linemen, apprentice linemen for work on maintenance and construction crews. Permanent work for right men. Write Illinois Central Telephone Co., Clinton, Ill.

WANTED — Communication engineer, telephone installers, telephone linemen, communication mechanicians, communication technicians by a Class A telephone company in the Middle Atlantic States. Give information as to previous experience, age, recommendations, draft status and compensation desired. Essential workers need Release Statement. Write Box No. 2075, c/o TELEPHONY.

HELP WANTED

WANTED: Starting new crews. Need construction foreman familiar with general outside telephone construction work. Also need linemen. Permanent employment to right man. Age no object if you can produce. Write, Plant Superintendent, Illinois Central Telo. Co., Clinton, Ill.

WANTED: Telephone Accountant—qualified to supervise all phases of telephone accounting for Class A companies. Give full information as to age, experience, draft status, etc. Attach small photograph. Write Telephone Services, Inc., 16th Floor, Lincoln Tower, Fort Wayne, Indiana.

WANTED: Equipment man capable of doing a good job adjusting Strowger automatic switchboard equipment and clearing trouble. Good salary and permanent position to the right man. Location—California. Write Box No. 2076, c/o TELEPHONY.

WANTED: Central Office equipment repair man for Strowger Automatic equipment. Exchange operating over 15,000 stations, located in Middle West. Excellent working conditions and wages. In reply furnish complete information as to age, experience, and draft status. Write Box No. 2077, c/o TELEPHONY.

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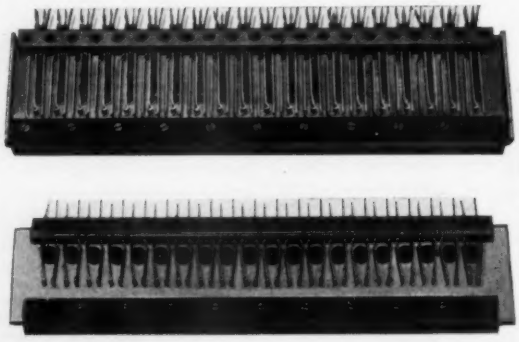

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COLUMBUS 16, OHIO

Suspected as Prowler, Bullet Misses Troubleman

While two troubleshooters for the American Telephone & Telegraph Co., Albert Kirchenfaut and S. Daws, both of Danville, Ill., were busily engaged in repairing a damaged aerial cable near Rossville at 1:30 a.m., June 2, a shot rang out in the still night air as a bullet whizzed uncomfortably close to Mr. Kirchenfaut, who was seated in a swing suspended from the cable.

Joe McGrew, Sr., carpenter, living on the road near where the telephone men were at work, is said to have fired the shot, having been awakened from a sound sleep by the continued barking of his dog. Mr. McGrew said he had no idea that anyone was working on the aerial cable, but fired at random after he had seen flickering lights 100 yards or more from his house.

V V

Lohman Superintendent Of Pike County Company

C. R. Brown, Springfield, Ill., president, Illinois Commercial Telephone Co., recently announced the appointment of Carl J. Lohman as superintendent of the Pike County Telephone Co., Pittsfield, Ill., which it purchased recently.

Mr. Lohman became associated with the Pike County company on June 15, 1943, as plant superintendent, in which capacity he continued to serve after the company was sold to the Illinois Commercial company. As superintendent Mr. Lohman will have active supervision of plant, commercial and traffic.

Before going to Pittsfield, Mr. Lohman was with the Central Electric and Telephone Co. at Aledo, Ill., for 12 years.

FOR SALE

FOR SALE: General Electric Mercury Arc Rectifier formerly used to charge batteries in electric car. Excellent condition. Write, W. J. Humphrey, Wyoming County Bank & Trust Co., Warsaw, N. Y.

FOR SALE: Six Stromberg-Carlson; Three Kellogg; one Monarch 3-bar wall telephone with exposed binding post and rebuilt transmitters and receiver —$7.50 each or all for $70.00. Write, Mille Lacs Telo. Co., Onamia, Minn.

WANTED TO BUY

WANTED: Individual wants to buy single exchange with 300 to 500 stations. If interested give number of company-owned stations, gross revenues showing toll and exchange income, and any additional information on the property. Write Box No. 2079, c/o TELEPHONY.

Index to Advertisers

	Page
Acme Visible Records, Inc.	—
Acorn Insulated Wire Co., Inc.	37
Addressograph Multigraph Corp.	—
Air Reduction Sales Co.	—
Allen Co., L. B.	—
American Appraisal Co., The	—
American Coach and Body Co., The	—
American Condenser Corp.	—
American Creosote Works, Inc.	—
American Crossarm & Conduit Co.	—
American Cross-Arm, Inc.	—
American Fork & Hoe Co., Inc.	—
American Photocopy Equipment Co.	—
American Steel & Wire Co.	—
American Telephone & Telegraph Co.	—
Amertype Recordgraph	—
Anaconda Wire & Cable Co.	—
Armstrong Cork Co., Whitall Tatum Glass Insulators Dept.	—
Atlantic Creosoting Co., Inc.	45
Autocar Co., The	—
Automatic Electric Sales Corp.	23, 24-25, 31
Barco Manufacturing Co.	—
Bartlett Mfg. Co.	—
Bell Lumber & Pole Co.	—
Berry & Co., L. M.	45
Bethlehem Steel Co.	11
Brach Mfg. Co., L. S.	—
Buckeye Telephone & Supply Co.	40, 46
Cable Spinning Equipment Co., The	—
Calculagraph Company	—
Carney & Co., B. J.	45
Chance Co., A. B.	—
Christiansen Co., C. M.	45
Churchill Cabinet Co.	7
Coffing Hoist Co.	36
Colfax Lumber Co.	—
Cook Electric Company	21
Copperweld Steel Co.	Back Cover
Cuneo Press, Inc., The	44
Davison Chemical Corp., The	10, 41
Defiance Alloyed Products Co.	—
Diamond Expansion Bolt Co.	—
Dicke Tool Co.	—
Dictaphone Corp.	—
Donnelley & Sons, R. R.	—
Eby, Inc., Hugh H.	—
Ederer, Inc.	—
Electric Products Co., The	—
Electric Storage Battery Co., The	—
Estwing Mfg. Co.	—
Everstick Anchor Co.	—
Fahnstock Mfg. Co.	—
Fansteel Metallurgical Co.	—
Fisher Research Laboratory	—
Forged Steel Products Co.	—
Foley Copper Products Co.	—
Four Wheel Drive Auto Co., The	—
Fowle & Co., Frank F.	45
Gardiner Metal Co.	—
General Cable Corp.	23
General Electric Co.	—
General Telephone Directory Co.	—
Graybar Electric Co., The	—
Gray Manufacturing Co., The	—
Hallicrafters Company	—
Hammond Drierite Co., W. A.	—
Herdrich Boggs and Co.	45
Hexacon Electric Co.	—
Highway Trailer Co.	9
Holtzer-Cabot Electric Co.	—
Homelite Corporation	—
Hubbard & Co.	33
Indiana Steel & Wire Co.	7, 44
Industrial Instruments Inc.	—
International Creosoting & Construction Co.	45
International Telephone & Telegraph Corporation	—
Johns-Manville	—
Joslyn Mfg. & Supply Co.	—
Ka-Mo Tools, Inc.	—
Kaufman, H. J.	—
Kellogg Switchboard & Supply Co.	4-5, 6-7
Kester Solder Corp.	6
Klein & Sons, Mathias	35
Leeds & Northrup Co.	—
Leich Sales Corporation	—
Lenz Electric Mfg. Co.	—
Line Material Co.	—
Linen Thread Co., Inc., The	—
Loomis Advertising Co.	45
Lorain Products Corporation, The	42
MacGillis & Gibbs Co.	45
Matthews Corp., W. N.	—
Michigan Pole & Tie Co.	45
Morley Co., The	—
Moss Tie Co., T. J.	—
Murdock Co., Wm. J.	—
National Carbon Co., Inc.	—
National Construction & Engineering Co.	—
National Electric Products Corp.	—
National Fireproofing Co.	—
National Lead Co.	—
National Telephone Supply Co.	6, 32, 41
Naugle Pole & Tie Co.	—
North Bros. Mfg. Co.	—
North Electric Mfg. Co.	47
Oliver Iron & Steel Corp.	—
Onan & Sons, D. W.	—
Owens-Illinois Glass Co., Hemingray Division	7, 34
Page & Hill Co.	—
Paper Manufacturers Co.	—
Paragon Electric Co.	29
Partridge Lumber Co., T. M.	45
Pensacola Creosoting Co.	45
Perfect Paint Sales	—
Plastic Wire & Cable Corp.	—
Philco Corp. (Battery Division)	12
Philip Dodge Co.	—
Phillips Electric Works, Ltd.	—
Porcelain Products, Inc.	6
Porter, Inc., H. K.	—
Premax Products, Inc.	—
Presto Recording Corp.	—
Raytheon Mfg. Co.	—
Ray-O-Vac Company	—
Rebuilt Electric Equipment Co.	—
Reliable Electric Co.	7, 29
Remington Rand, Inc.	—
Rhodes & Sons Co., M. M.	—
Roeblings Sons Co., John A.	—
Runzel Cord & Wire Co.	—
Schauer Machine Co., The	44
Schollhorn Co., Wm., The	—
Seymour Smith & Sons, Inc.	—
Sloan & Cook	45
Stephens Co., E. W.	—
Stromberg-Carlson Company	2-3, 29, 41
Sturgis Posture Chair Co.	—
Superior Instrument Co.	—
Suttle Equipment Co.	44
Taylor-Colquitt Co., The	—
Telephone Cabinet Co.	45
Telephone Repair Co., Inc.	43
Texas Creosoting Co.	—
Union Carbide & Carbon Corp.	—
United States Motors Corp.	38
United States Rubber Co.	—
United States Steel Corp.	—
Valentine Clark Corporation	45
Vulcan Electric Co.	—
Webster Electric Co.	39
Western Electric Co.	—
Weston Electric Instrument Corp.	—
Whitney Blake Co.	37
Wood Preserving Division, Koppers Company	—
Wopat, J. W.	45
Wray & Co., J. G.	45
York-Hoover Corp.	27
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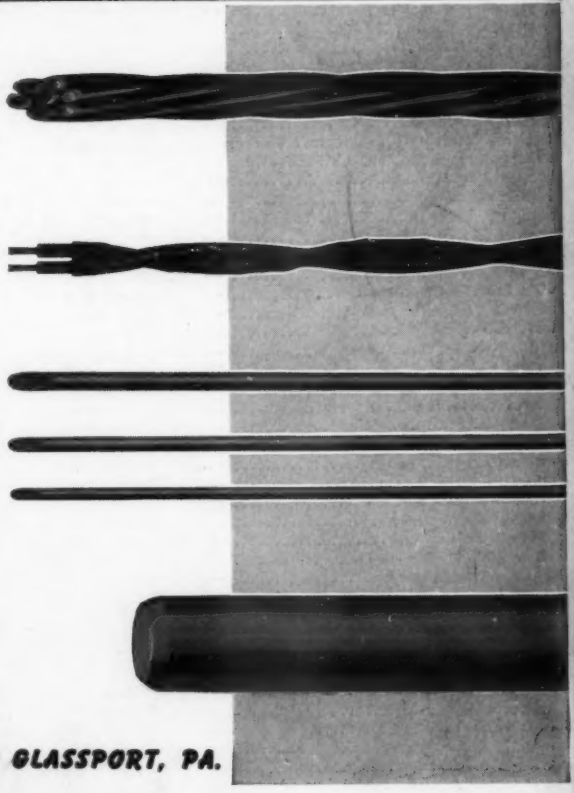

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